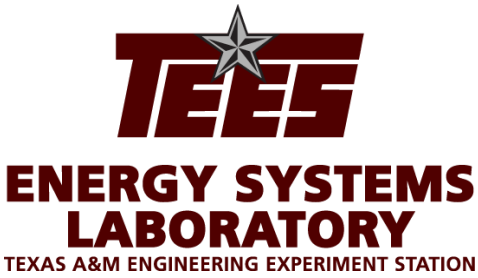
ESL-TR-17-10-02



TAMU Project

Energy Consumption Data Quality Assurance/Quality Control Assessment Report for the

Month of September 2017

Prepared for

Utility & Energy Services

Division of Administration

Texas A&M University

October 2017

Acknowledgements

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Executive Summary

This report analyzes the energy use data collected from 595 meters in 206 buildings and complexes (approximately 20,468,000 GSF) on the campus of Texas A&M University in College Station, Texas. The report consists of five sections: 1) The summary of the monthly energy consumption per meter ID, 2) The quality control and assurance analysis of incorrect or incomplete energy use patterns, 3) Energy consumption time series plots, 4) Energy Balance plots, and 5) Energy Balance plots with filled-in consumption data. Section one contains the summary of monthly energy consumption for each of the TAMU buildings. Section two includes the reviews on each of those building energy use patterns that presented problems in the metered data. Section three and four are a collection of the plots generated for the energy use analysis, as reference to indicate and validate the quality of the metered energy data. The Section five includes the energy balance plots with filled-in energy data.

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I.Summary of Monthly Consumption

Table I-1 September 2017 Monthly Consumption for TAMU Buildings

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0270	Emerging Technologies Building	305,316	007469	ELE	183,843	kWh	
0270	Emerging Technologies Building	305,316	007470	ELE	48,110	kWh	
0270	Emerging Technologies Building	305,316	007471	CHW	2,752,161	mBtu	
0270	Emerging Technologies Building	305,316	007475	HHW	189,203	mBtu	
0275	Liberal Arts and Arts & Humanities Building	107,500	007715	ELE	52,478	kWh	
0275	Liberal Arts and Arts & Humanities Building	107,500	007716	CHW	492,942	mBtu	
0275	Liberal Arts and Arts & Humanities Building	107,500	007717	HHW	24,068	mBtu	
0290	Wells Residence Hall	67,283	006870	ELE	46,269	kWh	
0290	Wells Residence Hall	67,283	001984	CHW	1,089,837	mBtu	
0290	Wells Residence Hall	67,283	001988	HHW	497,357	mBtu	
0291	Rudder Residence Hall	67,283	000351	ELE	47,969	kWh	
0291	Rudder Residence Hall	67,283	002132	CHW	675,966	mBtu	*, (2)
0291	Rudder Residence Hall	67,283	002136	HHW	238,988	mBtu	*, (2)
0292	Eppright Residence Hall	67,283	000002	ELE	53,054	kWh	
0292	Eppright Residence Hall	67,283	002262	CHW	726,765	mBtu	
0292	Eppright Residence Hall	67,283	002266	HHW	176,317	mBtu	(1)
0293	Appelt Residence Hall	82,767	000003	ELE	56,616	kWh	
0293	Appelt Residence Hall	82,767	002062	CHW	846,820	mBtu	(2)
0293	Appelt Residence Hall	82,767	002066	HHW	255,557	mBtu	(2)
0294	Lechner Residence Hall	59,541	000004	ELE	48,063	kWh	
0294	Lechner Residence Hall	59,541	002285	CHW	673,662	mBtu	
0294	Lechner Residence Hall	59,541	002289	HHW	377,625	mBtu	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006536	ELE	125,610	kWh	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006537	ELE	100,824	kWh	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006534	CHW	1,612,159	mBtu	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006535	HHW	220,538	mBtu	
0353	Bright Aerospace Building	148,837	001569	ELE	161,656	kWh	
0353	Bright Aerospace Building	148,837	002746	CHW	1,764,256	mBtu	(2)
0353	Bright Aerospace Building	148,837	002757	HHW	43,012	mBtu	(2)
0358	Davis Football Player Development Center	20,026	007699	ELE	31,259	kWh	
0358	Davis Football Player Development Center	20,026	007701	CHW	270,908	mBtu	
0358	Davis Football Player Development Center	20,026	007702	HHW	1,023	mBtu	
0361	Bright Football Complex	124,971	008461	ELE	214,588	kWh	
0361	Bright Football Complex	124,971	002547	CHW	1,618,275	mBtu	
0361	Bright Football Complex	124,971	002551	HHW	106,572	mBtu	
0367	Kyle Field	489,000	000336	ELE	195,617	kWh	
0367	Kyle Field	489,000	008861	ELE	144,132	kWh	
0367	Kyle Field	489,000	008862	ELE	130,957	kWh	
0367	Kyle Field	489,000	008863	ELE	233,548	kWh	
0367	Kyle Field	489,000	008864	ELE	223,958	kWh	
0367	Kyle Field	489,000	008865	ELE	89,945	kWh	
0367	Kyle Field	489,000	008866	ELE	158,571	kWh	
0367	Kyle Field	489,000	008867	ELE	230,266	kWh	
0367	Kyle Field	489,000	008868	ELE	125,527	kWh	
0367	Kyle Field	489,000	008852	CHW	3,894,003	mBtu	
0367	Kyle Field	489,000	008026	CHW	4,996,261	mBtu	
0367	Kyle Field	489,000	008856	HHW	333,139	mBtu	
0367	Kyle Field	489,000	008027	HHW	886,282	mBtu	
0376	Chemistry Building Addition	115,797	006229	ELE	164,033	kWh	
0376	Chemistry Building Addition	115,797	006230	ELE	106,821	kWh	
0376	Chemistry Building Addition	115,797	007115	CHW	3,779,657	mBtu	
0376	Chemistry Building Addition	115,797	007119	HHW	504,783	mBtu	
0383	Koldus Building	110,272	001488	ELE	170,888	kWh	
0383	Koldus Building	110,272	002863	CHW	785,938	mBtu	
0383	Koldus Building	110,272	002874	HHW	132,157	mBtu	(1)
0384	Sanders Corps of Cadets Center	19,363	001554	ELE	24,150	kWh	
0384	Sanders Corps of Cadets Center	19,363	002583	CHW	230,422	mBtu	
0384	Sanders Corps of Cadets Center	19,363	002587	HHW	74,201	mBtu	
0325-0385	CE TTI Office & Lab Building	157,844	009122	ELE	159,032	kWh	
0325-0385	CE TTI Office & Lab Building	157,844	009123	CHW	908,317	mBtu	(2)
0325-0385	CE TTI Office & Lab Building	157,844	009124	HHW	81,665	mBtu	
0386	Jack E. Brown Chemical Engineering Building	205,000	001428	ELE	148,471	kWh	
0386	Jack E. Brown Chemical Engineering Building	205,000	001429	ELE	327,139	kWh	
0386	Jack E. Brown Chemical Engineering Building	205,000	002250	CHW	4,263,725	mBtu	
0386	Jack E. Brown Chemical Engineering Building	205,000	006871	CHW	112,274	mBtu	
0386	Jack E. Brown Chemical Engineering Building	205,000	002254	HHW	400,969	mBtu	
0387	Richardson Petroleum Engineering Building	113,700	005870	ELE	83,561	kWh	
0387	Richardson Petroleum Engineering Building	113,700	005872	ELE	103,784	kWh	
0387	Richardson Petroleum Engineering Building	113,700	005805	CHW	1,573,062	mBtu	
0387	Richardson Petroleum Engineering Building	113,700	005809	HHW	195,056	mBtu	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	001573	ELE	202,273	kWh	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	002906	CHW	1,606,926	mBtu	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	002910	HHW	159,373	mBtu	

Table I-1 September 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0394	Underwood Residence Hall	81,730	000014	ELE	62,722	kWh	
0394	Underwood Residence Hall	81,730	002117	CHW	678,952	mBtu	(2)
0394	Underwood Residence Hall	81,730	002121	HHW	74,158	mBtu	(2)
0398	Langford Architecture Center Building A	116,619	003806	ELE	119,435	kWh	
0398	Langford Architecture Center Building A	116,619	003951	CHW	969,488	mBtu	(2)
0398	Langford Architecture Center Building A	116,619	003955	HHW	121,000	mBtu	(2)
0400-0402-1405	Spence Hall, Briggs Hall, and Ash II LLC	108,555	009386	ELE	91,909	kWh	
0400	Spence Hall Dorm 1	38,907	009290	ELE	15,359	kWh	
0400	Spence Hall Dorm 1	38,907	009291	ELE	17,641	kWh	
0400-1405	Spence Hall and Ash II LLC	72,038	009292	CHW	729,815	mBtu	
0400-1405	Spence Hall and Ash II LLC	72,038	009296	HHW	128,199	mBtu	
1405	Ash II LLC	33,131	009387	CHW	315,095	mBtu	
1405	Ash II LLC	33,131	009391	HHW	59,096	mBtu	
0402	Briggs Hall Dorm 3	36,517	009322	ELE	17,729	kWh	
0402	Briggs Hall Dorm 3	36,517	009323	ELE	13,359	kWh	
0402	Briggs Hall Dorm 3	36,517	009324	CHW	427,107	mBtu	*
0402	Briggs Hall Dorm 3	36,517	009328	HHW	54,621	mBtu	*
0401-0403-1404	Kiest Hall, Fountain Hall, and Plank LLC	108,752	009370	ELE	88,661	kWh	
0401	Kiest Hall Dorm 2	38,815	009306	ELE	12,793	kWh	
0401	Kiest Hall Dorm 2	38,815	009307	ELE	14,511	kWh	
0401-1404	Kiest Hall, and Plank LLC	72,052	009308	CHW	786,247	mBtu	
0401-1404	Kiest Hall, and Plank LLC	72,052	009312	HHW	163,234	mBtu	
1404	Plank LLC	33,237	009372	CHW	376,926	mBtu	
1404	Plank LLC	33,237	009376	HHW	99,023	mBtu	
0403	Fountain Hall Dorm 4	36,700	009338	ELE	14,394	kWh	
0403	Fountain Hall Dorm 4	36,700	009339	ELE	14,601	kWh	
0403	Fountain Hall Dorm 4	36,700	009340	CHW	401,092	mBtu	
0403	Fountain Hall Dorm 5	36,700	009344	HHW	70,624	mBtu	
0404-0406-1403	Gainer Hall, Leonard Hall and Ash LLC	90,072	009401	ELE	75,064	kWh	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	53,508	007982	CHW	601,825	mBtu	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	53,508	007983	HHW	38,390	mBtu	
0406	Leonard Hall - Dorm 7	36,222	008011	ELE	13,998	kWh	
0406	Leonard Hall - Dorm 7	36,222	008012	ELE	15,185	kWh	
1403	H. Grady Ash, Jr. '58 Leadership Learning Center	17,286	008005	CHW	195,461	mBtu	
1403	H. Grady Ash, Jr. '58 Leadership Learning Center	17,286	008006	HHW	3,285	mBtu	
0404	Gainer Hall Dorm 5	36,564	009354	ELE	14,623	kWh	
0404	Gainer Hall Dorm 5	36,564	009355	ELE	13,285	kWh	
0404	Gainer Hall Dorm 5	36,564	009356	CHW	407,310	mBtu	
0404	Gainer Hall Dorm 5	36,564	009360	HHW	47,300	mBtu	
0405-0407-1402	Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center	91,310	007721	ELE	79,198	kWh	
0407-1402	Harrell Hall - Dorm 8 and Buzbee LLC	54,443	007722	CHW	626,070	mBtu	
0407-1402	Harrell Hall - Dorm 8 and Buzbee LLC	54,443	007723	HHW	35,307	mBtu	
0405	Lacy Hall - Dorm 6	36,867	007922	ELE	30,068	kWh	
0405	Lacy Hall - Dorm 6	36,867	007918	CHW	405,331	mBtu	
0405	Lacy Hall - Dorm 6	36,867	007919	HHW	49,865	mBtu	
0407	Harrell Hall - Dorm 8	36,943	007729	ELE	31,476	kWh	
1402	Buzbee Leadership Learning Center	17,500	007725	CHW	288,194	mBtu	
1402	Buzbee Leadership Learning Center	17,500	007726	HHW	2,057	mBtu	
0408	Whitely Hall - Dorm 9	36,893	010031	ELE	32,765	kWh	
0408	Whitely Hall - Dorm 9	36,893	010035	CHW	446,573	mBtu	
0408	Whitely Hall - Dorm 9	36,893	010036	HHW	57,991	mBtu	
0409	White Hall - Dorm 10	36,893	010032	ELE	33,083	kWh	
0409	White Hall - Dorm 10	36,893	010039	CHW	453,355	mBtu	
0409	White Hall - Dorm 10	36,893	010040	HHW	71,006	mBtu	
0410	Harrington Hall - Dorm 11	36,893	010033	ELE	31,436	kWh	
0410	Harrington Hall - Dorm 11	36,893	010043	CHW	428,771	mBtu	
0410	Harrington Hall - Dorm 11	36,893	010044	HHW	40,180	mBtu	
0411	Utay Hall - Dorm 12	36,943	010034	ELE	32,488	kWh	
0411	Utay Hall - Dorm 12	36,943	010047	CHW	445,844	mBtu	
0411	Utay Hall - Dorm 12	36,943	010048	HHW	56,425	mBtu	
0412	Moses Residence Hall	40,828	000027	ELE	38,621	kWh	
0412	Moses Residence Hall	40,828	002384	CHW	603,479	mBtu	
0412	Moses Residence Hall	40,828	002395	HHW	111,827	mBtu	
0415	Davis-Gary Residence Hall	40,828	000030	ELE	34,951	kWh	
0415	Davis-Gary Residence Hall	40,828	002532	CHW	523,062	mBtu	
0415	Davis-Gary Residence Hall	40,828	002543	HHW	162,353	mBtu	
0419	Legett Residence Hall	45,134	000031	ELE	15,746	kWh	(2)
0419	Legett Residence Hall	45,134	002218	CHW	338,846	mBtu	(2)
0419	Legett Residence Hall	45,134	002222	HHW	69,312	mBtu	(1), (2)
0420	Milner Hall	48,268	009144	ELE	27,709	kWh	
0420	Milner Hall	48,268	009145	CHW	303,618	mBtu	
0420	Milner Hall	48,268	009146	HHW	35,398	mBtu	
0422	Walton Residence Hall	51,494	000378	ELE	95,374	kWh	
0422	Walton Residence Hall	51,494	002364	HHW	33,347	mBtu	

Table I-1 September 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0424	Hotard Hall	18,500	000032	ELE	14,015	kWh	
0424	Hotard Hall	18,500	002657	CHW	180,641	mBtu	
0424	Hotard Hall	18,500	002668	HHW	46,895	mBtu	
0425	Henderson Hall	22,185	001553	ELE	17,705	kWh	
0425	Henderson Hall	22,185	002607	CHW	252,508	mBtu	
0425	Henderson Hall	22,185	002611	HHW	59,515	mBtu	
0426-0427-0428	FHK Complex	154,349	000331	ELE	113,969	kWh	
0426-0427-0428	FHK Complex	154,349	002848	CHW	1,343,200	mBtu	
0426-0427-0428	FHK Complex	154,349	002859	HHW	166,835	mBtu	
0430	Schumacher Residence Hall	38,957	000034	ELE	32,132	kWh	
0430	Schumacher Residence Hall	38,957	002015	CHW	429,005	mBtu	
0430	Schumacher Residence Hall	38,957	002030	HHW	29,245	mBtu	# (1)
0359	Architecture Building B	28,545	005518	ELE	21,620	kWh	
0432	Architecture Building C	73,020	005584	ELE	83,120	kWh	
0359-0432	Architecture Building B&C	101,565	006419	CHW	821,457	mBtu	
0359-0432	Architecture Building B&C	101,565	006423	HHW	165,158	mBtu	
0434	Luedecke Building (Cyclotron)	80,646	005555	ELE	159,603	kWh	
0434	Luedecke Building (Cyclotron)	80,646	005558	ELE	1,112,182	kWh	
0434	Luedecke Building (Cyclotron)	80,646	006664	CHW	2,380,266	mBtu	
0434	Luedecke Building (Cyclotron)	80,646	006668	HHW	175,468	mBtu	
0435	Harrington Education Center Office Tower	130,844	001546	ELE	130,903	kWh	*
0435	Harrington Education Center Office Tower	130,844	002792	CHW	1,126,743	mBtu	
0435	Harrington Education Center Office Tower	130,844	002796	HHW	308,723	mBtu	
0436	Reed-McDonald Building	77,435	006868	ELE	95,265	kWh	
0436	Reed-McDonald Building	77,435	002419	CHW	1,795,239	mBtu	
0436	Reed-McDonald Building	77,435	002423	HHW	286,335	mBtu	
0438	Harrington Education Center Classroom Building	61,860	003630	ELE	45,601	kWh	
0438	Harrington Education Center Classroom Building	61,860	002784	CHW	458,965	mBtu	
0438	Harrington Education Center Classroom Building	61,860	002788	HHW	115	mBtu	
0433-0440-0441-0442-0447	Mosher Commons Krueger Dunn Aston	577,584	009099	ELE	309,528	kWh	
0433	Mosher Residence Hall	155,430	009083	ELE	108,036	kWh	
0433	Mosher Residence Hall	155,430	002485	CHW	1,896,475	mBtu	* # (1)
0433	Mosher Residence Hall	155,430	002489	HHW	523,717	mBtu	* # (1)
0440-0441	Commons Krueger	196,633	009833	ELE	197,694	kWh	
0440	Commons Hall	84,500	009237	CHW	785,951	mBtu	# (1)
0440	Commons Hall	84,500	009238	HHW	123,539	mBtu	# (1)
0441	Krueger Residence Hall	112,133	009091	ELE	53,145	kWh	
0441	Krueger Residence Hall	112,133	009828	ELE	23,553	kWh	
0441	Krueger Residence Hall	112,133	002504	CHW	943,712	mBtu	* # (1)
0441	Krueger Residence Hall	112,133	002500	HHW	188,578	mBtu	* # (1)
0442	Dunn Residence Hall	112,133	009095	ELE	73,845	kWh	(2)
0442	Dunn Residence Hall	112,133	002519	CHW	875,353	mBtu	(2)
0442	Dunn Residence Hall	112,133	002515	HHW	217,262	mBtu	(2)
0447	Aston Residence Hall	113,388	009087	ELE	74,316	kWh	
0447	Aston Residence Hall	113,388	002474	CHW	1,078,845	mBtu	
0447	Aston Residence Hall	113,388	002470	HHW	285,879	mBtu	
0443	Oceanography & Meteorology Building	180,316	005322	ELE	182,159	kWh	
0443	Oceanography & Meteorology Building	180,316	005323	ELE	65,062	kWh	
0443	Oceanography & Meteorology Building	180,316	006388	CHW	1,731,330	mBtu	
0443	Oceanography & Meteorology Building	180,316	006392	HHW	256,499	mBtu	
0444	Peterson Building	84,831	004714	ELE	168,783	kWh	
0444	Peterson Building	84,831	002922	CHW	1,384,435	mBtu	
0444	Peterson Building	84,831	006435	HHW	172,463	mBtu	
0445-0517	Teague Research Center and DPC Annex	89,735	003948	ELE	23,507	kWh	
0445-0517	Teague Research Center and DPC Annex	89,735	004719	ELE	51,011	kWh	
0445	Teague Research Center	63,515	006411	CHW	430,262	mBtu	
0445	Teague Research Center	63,515	006415	HHW	62,014	mBtu	(2)
0517	DPC Annex	26,220	006563	CHW	625,392	mBtu	
0517	DPC Annex	26,220	006567	HHW	116,766	mBtu	(2)
0446	Rudder Theatre Complex	209,293	002977	ELE	99,924	kWh	# (1)
0446	Rudder Theatre Complex	209,293	002980	ELE	32,053	kWh	# (1)
0446	Rudder Theatre Complex	209,293	004297	CHW	1,879,082	mBtu	# (1)
0446	Rudder Theatre Complex	209,293	004309	HHW	802,925	mBtu	# (1)
0446	Rudder Tower	92,947	001550	ELE	34,036	kWh	
0446	Rudder Tower	92,947	001551	ELE	59,742	kWh	
0446	Rudder Tower	92,947	002455	CHW	854,757	mBtu	
0446	Rudder Tower	92,947	002459	HHW	57,149	mBtu	
0448	Adams Band Hall	55,248	000978	ELE	70,248	kWh	
0448	Adams Band Hall	55,248	002555	CHW	503,959	mBtu	# (1)
0448	Adams Band Hall	55,248	002566	HHW	268,894	mBtu	# (1)
0449	Biological Sciences Building - West	96,038	003978	ELE	180,717	kWh	
0449	Biological Sciences Building - West	96,038	003981	CHW	1,517,749	mBtu	
0449	Biological Sciences Building - West	96,038	003985	HHW	220,469	mBtu	

Table I-1 September 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0450	Duncan Dining Hall	128,482	000300	ELE	125,646	kWh	
0450	Duncan Dining Hall	128,482	002998	CHW	1,088,357	mBtu	
0450	Duncan Dining Hall	128,482	003009	HHW	17,851	mBtu	
0454	MSC (East Main)	392,000	007600	ELE	319,381	kWh	
0454	MSC (West Main)	392,000	007601	ELE	206,936	kWh	
0454	MSC BOR	392,000	008047	ELE	22,727	kWh	
0454	MSC	392,000	007584	CHW	3,504,229	mBtu	
0454	MSC BOR	392,000	004184	CHW	520,140	mBtu	
0454	MSC	392,000	007585	HHW	211,547	mBtu	
0454	MSC BOR	392,000	004196	HHW	213,193	mBtu	
0456	Military Sciences Building	43,808	006939	CHW	544,831	mBtu	*
0456	Military Sciences Building	43,808	006943	HHW	171,185	mBtu	*
0457	TAES Annex Building	16,364	005863	ELE	13,930	kWh	
0457	TAES Annex Building	16,364	005913	CHW	98,478	mBtu	
0457	TAES Annex Building	16,364	005917	HHW	24,141	mBtu	
0461	Coke Building	24,466	004008	ELE	25,757	kWh	
0461	Coke Building	24,466	005307	CHW	137,980	mBtu	
0461	Coke Building	24,466	004023	HHW	419	mBtu	
0462	Academic Building	82,555	005861	ELE	19,502	kWh	
0462	Academic Building	82,555	005903	ELE	40,171	kWh	
0462	Academic Building	82,555	005905	CHW	581,459	mBtu	
0462	Academic Building	82,555	005909	HHW	144,127	mBtu	
0463	Psychology Building	48,215	001575	ELE	44,707	kWh	
0463	Psychology Building	48,215	002941	CHW	546,122	mBtu	(2)
0463	Psychology Building	48,215	002945	HHW	11,230	mBtu	
0464	State Chemist Building	20,027	005839	ELE	10,862	kWh	
0464	State Chemist Building	20,027	005837	ELE	6,243	mBtu	(2)
0464	State Chemist Building	20,027	005841	HHW	17,984	mBtu	
0465	Butler Hall	29,699	003997	ELE	35,964	kWh	
0465	Butler Hall	29,699	004000	CHW	411,925	mBtu	
0465	Butler Hall	29,699	004004	HHW	101,453	mBtu	
0467	Biological Sciences Building - East	62,273	001543	ELE	188,650	kWh	
0467	Biological Sciences Building - East	62,273	003851	CHW	977,658	mBtu	# (1)
0467	Biological Sciences Building - East	62,273	003862	HHW	78,645	mBtu	
0468	Evans Library	712,093	000304	ELE	247,882	kWh	
0468	Evans Library	712,093	000318	ELE	142,547	kWh	
0468	Evans Library	712,093	000319	ELE	102,065	kWh	*
0468	Evans Library	712,093	000320	ELE	88,792	kWh	
0468	Evans Library	712,093	006429	ELE	76,629	kWh	
0468	Evans Library	712,093	003701	CHW	1,779,662	mBtu	
0468	Evans Library	712,093	003895	CHW	1,723,999	mBtu	
0468	Evans Library	712,093	003903	CHW	391,816	mBtu	
0468	Evans Library	712,093	003911	CHW	1,144,383	mBtu	
0468	Evans Library	712,093	003712	HHW	119,903	mBtu	# (1)
0468	Evans Library	712,093	003899	HHW	140,827	mBtu	
0468	Evans Library	712,093	003907	HHW	28,627	mBtu	
0468	Evans Library	712,093	003922	HHW	117,825	mBtu	
0468	Evans Library	712,093	005303	HHW	24,494	mBtu	# (1)
0469	Central Campus Parking Garage	251,304	000306	ELE	44,886	kWh	
0469	Central Campus Parking Garage	2,844	003716	CHW	55,335	mBtu	
0469	Central Campus Parking Garage	2,844	003720	HHW	3,107	mBtu	
0470	Glasscock History Bldg	39,887	006407	ELE	19,367	kWh	
0470	Glasscock History Bldg	39,887	006638	CHW	233,716	mBtu	
0470	Glasscock History Bldg	39,887	006642	HHW	2,040	mBtu	
0471	Pavilion	40,062	001455	ELE	36,787	kWh	
0471	Pavilion	40,062	002769	CHW	294,053	mBtu	
0471	Pavilion	40,062	002780	HHW	3,079	mBtu	
0472	Animal Industries	44,856	009042	ELE	54,297	kWh	
0472	Animal Industries	44,856	009109	CHW	547,132	mBtu	
0472	Animal Industries	44,856	009113	HHW	16,918	mBtu	
0473	Williams Administration Building	69,898	007945	ELE	47,337	kWh	
0473	Williams Administration Building	69,898	007946	CHW	483,266	mBtu	
0473	Williams Administration Building	69,898	007947	HHW	41,900	mBtu	
0474	YMCA Building	36,035	007524	ELE	25,708	kWh	
0474	YMCA Building	36,035	007525	CHW	200,496	mBtu	
0474	YMCA Building	36,035	007526	HHW	9,423	mBtu	# (1)
0476	Francis Hall	36,850	008015	ELE	35,176	kWh	
0476	Francis Hall	36,850	008033	CHW	443,638	mBtu	
0476	Francis Hall	36,850	008034	HHW	537	mBtu	
0477	Anthropology Building	51,592	001558	ELE	35,650	kWh	
0477	Anthropology Building	51,592	003664	CHW	554,347	mBtu	
0477	Anthropology Building	51,592	003668	HHW	30,708	mBtu	# (1)

Table I-1 September 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0478	Scoates Hall	62,228	007961	ELE	53,002	kWh	
0478	Scoates Hall	62,228	007968	CHW	572,231	mBtu	
0478	Scoates Hall	62,228	007969	HHW	61,462	mBtu	
0480	Bolton Hall	39,686	006845	ELE	33,199	kWh	
0480	Bolton Hall	39,686	007012	CHW	230,669	mBtu	
0480	Bolton Hall	39,686	007016	HHW	30,258	mBtu	
0481	Heaton Hall	13,640	005712	ELE	0	kWh	
0481	Heaton Hall	13,640	007531	CHW	133,881	mBtu	
0481	Heaton Hall	13,640	007535	HHW	41,495	mBtu	
0482	Fermier Hall	19,074	005779	ELE	15,594	kWh	
0482	Fermier Hall	19,074	005878	CHW	141,445	mBtu	(2)
0482	Fermier Hall	19,074	005881	HHW	1,600	mBtu	(2)
0483	Thompson Hall	81,404	003688	ELE	72,646	kWh	
0483	Thompson Hall	81,404	003887	CHW	486,204	mBtu	
0483	Thompson Hall	81,404	003891	HHW	28,548	mBtu	
0484	Chemistry Building	205,393	007152	ELE	183,253	kWh	(2)
0484	Chemistry Building	205,393	007556	ELE	11,027	kWh	
0484	Chemistry Building	205,393	007557	ELE	10,739	kWh	(2)
0484	Chemistry Building	205,393	007559	ELE	174,022	kWh	
0484	Chemistry Building	205,393	007028	CHW	3,408,975	mBtu	
0484	Chemistry Building	205,393	007223	CHW	4,494,408	mBtu	
0484	Chemistry Building	205,393	007032	HHW	222,425	mBtu	
0484	Chemistry Building	205,393	007227	HHW	810,350	mBtu	
0490	Halbouty Geosciences Building	120,874	006691	ELE	69,262	kWh	
0490	Halbouty Geosciences Building	120,874	006695	ELE	104,005	kWh	
0490	Halbouty Geosciences Building	120,874	006896	CHW	1,497,707	mBtu	# (1)
0490	Halbouty Geosciences Building	120,874	006913	CHW	861,476	mBtu	
0490	Halbouty Geosciences Building	120,874	006900	HHW	365,611	mBtu	
0490	Halbouty Geosciences Building	120,874	006917	HHW	233,380	mBtu	
0492	Civil Engineering Building	56,537	005783	ELE	56,296	kWh	(2)
0492	Civil Engineering Building	56,537	005950	CHW	378,836	mBtu	(2)
0492	Civil Engineering Building	56,537	005954	HHW	66,701	mBtu	(2)
0495	Sbisa Dining Hall	94,233	000352	ELE	157,574	kWh	
0495	Sbisa Dining Hall	94,233	000353	ELE	134,779	kWh	
0495	Sbisa Dining Hall	94,233	001951	CHW	1,771,734	mBtu	
0495	Sbisa Dining Hall	94,233	001957	HHW	113,003	mBtu	
0496	Utilities & Energy Services Central Office	46,110	007706	ELE	10,797	kWh	(2)
0496	Utilities & Energy Services Central Office	46,110	006929	CHW	192,075	mBtu	(2)
0496	Utilities & Energy Services Central Office	46,110	006933	HHW	17,410	mBtu	(2)
0499	Engineering Innovation Center	28,339	001561	ELE	23,597	kWh	
0499	Engineering Innovation Center	28,339	002672	CHW	105,625	mBtu	*, (2)
0499	Engineering Innovation Center	28,339	002683	HHW	34,972	mBtu	*
0501	Concrete Materials Laboratory	9,600	005791	ELE	10,124	kWh	
0506	Nagle Hall	32,306	001484	ELE	12,596	kWh	(1), (2)
0506	Nagle Hall	32,306	003619	CHW	369,167	mBtu	(1)
0506	Nagle Hall	32,306	003623	HHW	19,435	mBtu	
0507	Veterinary Medical Science Building	69,367	003013	ELE	75,743	kWh	
0507	Veterinary Medical Science Building	69,367	003640	CHW	1,322,125	mBtu	
0507	Veterinary Medical Science Building	69,367	003644	HHW	380,531	mBtu	
0508	Veterinary Teaching Hospital	96,416	003022	ELE	92,236	kWh	
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration	191,096	004166	CHW	2,031,510	mBtu	
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration	191,096	009694	HHW	342,810	mBtu	
0511	Heep Laboratory Building	40,476	005787	ELE	42,000	kWh	(2)
0511	Heep Laboratory Building	40,476	005821	CHW	692,708	mBtu	#, (1)
0511	Heep Laboratory Building	40,476	005825	HHW	168,457	mBtu	(1)
0512	All Faiths Chapel	8,999	004340	ELE	7,256	kWh	
0512	All Faiths Chapel	8,999	004288	CHW	99,581	mBtu	
0512	All Faiths Chapel	8,999	004293	HHW	25,416	mBtu	(1)
0513	Doherty Building	42,336	000299	ELE	48,825	kWh	
0513	Doherty Building	42,336	002898	CHW	962,973	mBtu	(1)
0513	Doherty Building	42,336	002902	HHW	259,669	mBtu	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007558	ELE	12,791	kWh	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007487	CHW	118,821	mBtu	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007491	HHW	10,040	mBtu	
0516	Computing Services Center	30,014	005259	ELE	522,897	kWh	
0516	Computing Services Center	30,014	003959	CHW	1,557,985	mBtu	(1)
0516	Computing Services Center	30,014	003963	HHW	11	mBtu	
0518	Zachry Engineering Education Complex	464,400	009874	ELE	132,769	kWh	*, #, (1)
0518	Zachry Engineering Education Complex	464,400	009875	ELE	88,825	kWh	*, #, (1)
0518	Zachry Engineering Education Complex	464,400	009964	CHW	2,808,918	mBtu	*, (1)
0518	Zachry Engineering Education Complex	464,400	009965	HHW	258,501	mBtu	*, (1)
0520	Beutel Health Center	63,318	003785	ELE	63,867	kWh	
0520	Beutel Health Center	63,318	003933	CHW	519,736	mBtu	(1)
0520	Beutel Health Center	63,318	003944	HHW	48,286	mBtu	(1)

Table I-1 September 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0521	Heldenfels Hall	104,949	001547	ELE	116,123	kWh	
0521	Heldenfels Hall	104,949	002962	CHW	1,401,297	mBtu	
0521	Heldenfels Hall	104,949	002973	HHW	77,166	mBtu	
0524	Blocker Building	257,953	001545	ELE	197,340	kWh	
0524	Blocker Building	257,953	002914	CHW	1,243,894	mBtu	(2)
0524	Blocker Building	257,953	002918	HHW	990	mBtu	(2)
0548	Clements Residence Hall	62,156	000048	ELE	43,414	kWh	
0548	Clements Residence Hall	62,156	002729	CHW	1,109,764	mBtu	
0548	Clements Residence Hall	62,156	002740	HHW	376,918	mBtu	
0549	Haas Residence Hall	69,668	001398	ELE	51,575	kWh	
0549	Haas Residence Hall	69,668	002983	CHW	1,049,817	mBtu	(1)
0549	Haas Residence Hall	69,668	002994	HHW	530,839	mBtu	(1)
0550	McFadden Residence Hall	62,156	000339	ELE	44,407	kWh	
0550	McFadden Residence Hall	62,156	002188	CHW	1,005,192	mBtu	
0550	McFadden Residence Hall	62,156	002192	HHW	462,761	mBtu	
0652	Neeley Residence Hall	69,668	000056	ELE	54,496	kWh	
0652	Neeley Residence Hall	69,668	002147	CHW	627,724	mBtu	
0652	Neeley Residence Hall	69,668	002151	HHW	250,896	mBtu	(1)
0653	Hobby Residence Hall	62,156	000057	ELE	46,345	kWh	
0653	Hobby Residence Hall	62,156	002401	CHW	812,327	mBtu	
0653	Hobby Residence Hall	62,156	002405	HHW	270,389	mBtu	
0682	Wisenbaker Engineering Research Center	177,704	005246	ELE	222,614	kWh	
0682	Wisenbaker Engineering Research Center	177,704	003879	CHW	2,215,813	mBtu	
0682	Wisenbaker Engineering Research Center	177,704	003883	HHW	200,764	mBtu	
0740	McNew Laboratory	20,904	005874	ELE	57,548	kWh	(2)
0740	McNew Laboratory	20,904	005974	CHW	468,703	mBtu	(2)
0740	McNew Laboratory	20,904	005968	HHW	2,901	mBtu	(2)
0806	Soil Testing Labs	5,544	006875	ELE	23,384	kWh	
0815	Entomology Research Lab	17,618	005799	ELE	32,300	kWh	(1)
0815	Entomology Research Lab	17,618	006043	CHW	163,803	mBtu	(1)
0880	TVMC-Small Animal Building	3,260	005958	CHW	29,264	mBtu	
0880	TVMC-Small Animal Building	3,260	005962	HHW	81	mBtu	(2)
0971	Dollar Data Center	67,799	010002	ELE	128,878	kWh	*, (2)
0971	Dollar Data Center	67,799	010003	ELE	30,159	kWh	*, (2)
0972	Laboratory Animal Care Building	52,178	007063	ELE	133,881	kWh	
0972	Laboratory Animal Care Building	52,178	007067	ELE	50,529	kWh	
0972	Laboratory Animal Care Building	52,178	007071	CHW	3,027,825	mBtu	
0972	Laboratory Animal Care Building	52,178	006991	HHW	340,512	mBtu	
1020	Vivarium III	12,234	005857	ELE	23,937	kWh	
1020	Vivarium III	12,234	005997	CHW	277,751	mBtu	
1020	Vivarium III	12,234	006001	HHW	12,070	mBtu	
1026	Veterinary Medicine Administration	94,680	006072	ELE	125,714	kWh	*
1026	Veterinary Medicine Administration	94,680	006049	CHW	1,221,975	mBtu	
1041	Texas Vet Med Diagnostic Lab	55,169	001466	ELE	61,314	kWh	
1041	Texas Vet Med Diagnostic Lab	55,169	001539	ELE	29,871	kWh	
1041	Texas Vet Med Diagnostic Lab	55,169	003817	CHW	585,359	mBtu	
1041	Texas Vet Med Diagnostic Lab	55,169	004137	CHW	897,899	mBtu	
1041	Texas Vet Med Diagnostic Lab	55,169	003821	HHW	28,461	mBtu	
1041	Texas Vet Med Diagnostic Lab	55,169	004130	HHW	83,205	mBtu	
1042	Forest Science Laboratory Building	9,632	006036	ELE	32,439	kWh	
1085	Veterinary Small Animal Hospital	103,440	004136	ELE	227,012	kWh	
1085	Veterinary Small Animal Hospital	103,440	003656	CHW	2,117,869	mBtu	
1085	Veterinary Small Animal Hospital	103,440	003660	HHW	310,573	mBtu	
1089	Utilities Energy Office Annex	2,937	006964	ELE	6,317	kWh	
1146	Biological Control Facility	13,492	005795	ELE	34,576	kWh	
1146	Biological Control Facility	13,492	005887	CHW	176,269	mBtu	
1146	Biological Control Facility	13,492	005891	HHW	26,017	mBtu	
1156	Physical Plant Administration & Shops	101,704	007483	ELE	130,244	kWh	
1156	Physical Plant Administration & Shops	101,704	007679	CHW	498,951	mBtu	(2)
1156	Physical Plant Administration & Shops	101,704	007683	HHW	71,942	mBtu	
1184	Veterinary Anatomic Pathology	17,223	001445	ELE	52,575	kWh	
1184	Veterinary Anatomic Pathology	17,223	006995	CHW	548,144	mBtu	
1184	Veterinary Anatomic Pathology	17,223	006999	HHW	81,885	mBtu	
1194	Veterinary Large Animal Hospital	140,865	005256	ELE	99,956	kWh	
1194	Veterinary Large Animal Hospital	140,865	003016	ELE	67,746	kWh	
1194	Veterinary Large Animal Hospital	140,865	007455	ELE	41,469	kWh	
1194	Veterinary Large Animal Hospital	140,865	003648	CHW	2,291,732	mBtu	
1194	Veterinary Large Animal Hospital	140,865	007456	CHW	324,185	mBtu	
1194	Veterinary Large Animal Hospital	140,865	003652	HHW	441,769	mBtu	
1194	Veterinary Large Animal Hospital	140,865	007457	HHW	37,679	mBtu	
1197	Veterinary Research Building	114,666	006355	ELE	69,802	kWh	
1197	Veterinary Research Building	114,666	006359	ELE	32,378	kWh	
1197	Veterinary Research Building	114,666	006062	CHW	2,786,967	mBtu	
1197	Veterinary Research Building	114,666	006066	HHW	247,628	mBtu	

Table I-1 September 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
1416	Hullabaloo Residence Hall	253,452	007845	ELE	190,775	kWh	
1416	Hullabaloo Residence Hall	253,452	007846	CHW	1,502,772	mBtu	
1416	Hullabaloo Residence Hall	253,452	007847	HHW	88,141	mBtu	
1450	University Apartments - Laundry at the Gardens	1,428	006885	ELE	6,743	kWh	
1451	University Apartments - The Gardens J	33,535	006981	ELE	21,035	kWh	
1452	University Apartments - The Gardens K	33,535	006979	ELE	23,237	kWh	
1453	University Apartments - The Gardens L	33,535	006884	ELE	22,760	kWh	
1454	University Apartments - The Gardens F	33,535	006980	ELE	22,110	kWh	*
1455	University Apartments - The Gardens G	33,535	006882	ELE	21,009	kWh	*
1456	University Apartments - The Gardens H	33,535	007962	ELE	20,233	kWh	
1457	University Apartments - The Gardens M	33,535	007503	ELE	23,008	kWh	
1458	University Apartments - The Gardens N	33,535	007504	ELE	22,012	kWh	
1459	University Apartments - The Gardens P	33,535	007505	ELE	23,965	kWh	
1460	University Apartments - The Gardens Q	33,535	007506	ELE	24,593	kWh	
1497	Utilities & Energy Services Business Office	3,480	007082	ELE	4,589	kWh	
1497	Utilities & Energy Services Business Office	3,480	006341	CHW	37,248	mBtu	
1497	Utilities & Energy Services Business Office	3,480	006345	HHW	216	mBtu	
1501	Kleberg Center	165,031	007449	ELE	285,394	kWh	
1501	Kleberg Center	165,031	002624	CHW	1,937,513	mBtu	
1501	Kleberg Center	165,031	002628	HHW	563,096	mBtu	(1)
1502	Heep Center	158,979	001556	ELE	276,463	kWh	
1502	Heep Center	158,979	002599	CHW	2,908,919	mBtu	
1502	Heep Center	158,979	002603	HHW	265,034	mBtu	
1503	Cater-Mattil Hall	27,958	007977	ELE	79,170	kWh	
1503	Cater-Mattil Hall	27,958	008001	CHW	615,993	mBtu	
1504	Reynolds Medical Sciences Building	169,859	003975	ELE	284,470	kWh	
1504	Reynolds Medical Sciences Building	169,859	003989	CHW	2,680,584	mBtu	
1504	Reynolds Medical Sciences Building	169,859	003993	HHW	422,880	mBtu	
1505	Rosenthal Meat Science & Technology Center	30,889	003627	ELE	135,578	kWh	
1505	Rosenthal Meat Science & Technology Center	30,889	002573	CHW	247,015	mBtu	
1505	Rosenthal Meat Science & Technology Center	30,889	002577	HHW	1	mBtu	(2)
1506	Horticulture-Forest Science Building	118,648	001544	ELE	184,964	kWh	
1506	Horticulture-Forest Science Building	118,648	003967	CHW	951,515	mBtu	
1506	Horticulture-Forest Science Building	118,648	003971	HHW	90,118	mBtu	
1507	Biochemistry-Biophysics Building	166,079	001459	ELE	174,085	kWh	
1507	Biochemistry-Biophysics Building	166,079	001460	ELE	173,451	kWh	
1507	Biochemistry-Biophysics Building	166,079	003025	CHW	2,615,566	mBtu	
1507	Biochemistry-Biophysics Building	166,079	003029	HHW	511,424	mBtu	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	005638	ELE	24,755	kWh	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	006005	CHW	213,623	mBtu	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	006009	HHW	6,260	mBtu	
1509	Medical Sciences Library	84,183	000350	ELE	88,101	kWh	(2)
1509	Medical Sciences Library	84,183	003777	CHW	551,721	mBtu	(2)
1509	Medical Sciences Library	84,183	003781	HHW	36,772	mBtu	(2)
1510	Wehner Building	259,681	006849	ELE	208,923	kWh	
1510	Wehner Building	259,681	006685	ELE	236,127	kWh	
1510	Wehner Building	259,681	002687	CHW	2,247,325	mBtu	
1510	Wehner Building	259,681	002691	HHW	328,195	mBtu	
1511	West Campus Library Facility	68,125	004342	ELE	93,901	kWh	
1511	West Campus Library Facility	68,125	004313	CHW	753,153	mBtu	*
1511	West Campus Library Facility	68,125	004318	HHW	81,916	mBtu	*
1512	Southern Crop Improvement Greenhouse	48,154	005931	ELE	103,272	kWh	#, (1)
1513	Borlaug Center for Southern Crop Improvement	68,739	005802	ELE	286,590	kWh	*
1513	Borlaug Center for Southern Crop Improvement	68,739	005936	CHW	1,576,479	mBtu	*
1513	Borlaug Center for southern Crop Improvement	68,739	005895	HHW	129,597	mBtu	*
1518	TX School of Rural Public Health A	69,079	005273	ELE	69,481	kWh	
1519	TX School of Rural Public Health B	24,761	005274	ELE	56,247	kWh	#, (1)
1520	TX School of Rural Public Health C	13,264	005275	ELE	105,658	kWh	#, (1)
1518-1519-1520	TX School of Rural Public Health A,B,C	107,104	005294	CHW	1,693,981	mBtu	
1518-1519-1520	TX School of Rural Public Health A,B,C	107,104	005298	HHW	209,316	mBtu	
1525	Nuclear Magnetic Resonance Facility	37,282	006718	ELE	84,937	kWh	
1525	Nuclear Magnetic Resonance Facility	37,282	006715	CHW	1,033,059	mBtu	
1525	Nuclear Magnetic Resonance Facility	37,282	006716	HHW	350,671	mBtu	
1530	Interdisciplinary Life Sciences Building	218,540	006286	ELE	399,295	kWh	
1530	Interdisciplinary Life Sciences Building	218,540	006288	ELE	219,569	kWh	
1530	Interdisciplinary Life Sciences Building	218,540	006290	CHW	4,773,606	mBtu	
1530	Interdisciplinary Life Sciences Building	218,540	006294	HHW	796,306	mBtu	
1535	Agriculture and Life Sciences Building	168,353	007205	ELE	118,501	kWh	
1535	Agriculture and Life Sciences Building	168,353	007206	CHW	808,130	mBtu	
1535	Agriculture and Life Sciences Building	168,353	007207	HHW	18,669	mBtu	
1536	AgriLife Services Building	80,907	007571	ELE	43,948	kWh	
1536	AgriLife Services Building	80,907	007572	CHW	276,401	mBtu	
1536	AgriLife Services Building	80,907	007573	HHW	15,138	mBtu	(1)
1537	Wildlife Fisheries & Ecological Sciences Building	78,480	009982	ELE	87,145	kWh	*
1537	Wildlife Fisheries & Ecological Sciences Building	78,480	009983	CHW	1,457,856	mBtu	
1537	Wildlife Fisheries & Ecological Sciences Building	78,480	009984	HHW	337,772	mBtu	

Table I-1 September 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
1538	Agriculture Program Visitors Center	12,923	007209	ELE	14,025	kWh	
1538	Agriculture Program Visitors Center	12,923	007210	CHW	107,520	mBtu	
1538	Agriculture Program Visitors Center	12,923	007211	HHW	5,787	mBtu	
1540	Physical Education Activity Program Building	116,900	007881	ELE	75,712	kWh	
1540	Physical Education Activity Program Building	116,900	007878	CHW	677,525	mBtu	
1540	Physical Education Activity Program Building	116,900	007879	HHW	88,843	mBtu	
1542	Human Clinical Research Building	22,052	009693	ELE	56,573	kWh	
1542	Human Clinical Research Building	22,052	009683	CHW	570,055	mBtu	
1542	Human Clinical Research Building	22,052	009687	HHW	76,200	mBtu	
1544	Cain Garage	498,425	009824	ELE	42,456	kWh	
1550	Olsen Field at Bluebell Park	60,537	007560	ELE	111,127	kWh	
1554	Reed Arena	230,000	007582	ELE	172,735	kWh	
1554	Reed Arena	230,000	006243	ELE	785	kWh	*
1554	Reed Arena	230,000	006244	ELE	85,393	kWh	*
1554-1558	Reed Arena and Cox-McFerrin Center	328,185	007576	CHW	2,870,678	mBtu	
1554-1558	Reed Arena and Cox-McFerrin Center	328,185	007578	HHW	659,310	mBtu	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007581	ELE	88,391	kWh	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007575	CHW	696,468	mBtu	(2)
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007577	HHW	166,845	mBtu	(2)
1559	West Campus Parking Garage	1,541,457	001453	ELE	159,817	kWh	
1559	West Campus Parking Garage	13,000	004322	CHW	89,453	mBtu	(2)
1559	West Campus Parking Garage	13,000	004327	HHW	6,115	mBtu	(1)
1560	Student Recreation Center	334,642	000363	ELE	367,842	kWh	
1560	Student Recreation Center	334,642	000366	ELE	411,945	kWh	
1560	Student Recreation Center	334,642	002933	CHW	5,500,871	mBtu	
1560	Student Recreation Center	334,642	002937	HHW	939,790	mBtu	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009197	ELE	111,295	kWh	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009198	CHW	835,153	mBtu	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009199	HHW	79,103	mBtu	
1591	White Creek Apartment 2	179,467	008528	ELE	120,917	kWh	
1591	White Creek Apartment 2	179,467	008529	CHW	658,291	mBtu	
1591	White Creek Apartment 2	179,467	008533	HHW	42,539	mBtu	
1592	White Creek Apartment 3	179,467	008538	ELE	122,140	kWh	
1592	White Creek Apartment 3	179,467	008539	CHW	747,648	mBtu	
1592	White Creek Apartment 3	179,467	008543	HHW	33,487	mBtu	
1600	Gilchrist TTI Building	67,143	005286	ELE	53,898	kWh	
1600	Gilchrist TTI Building	67,143	002649	CHW	403,144	mBtu	
1600	Gilchrist TTI Building	67,143	002653	HHW	13,318	mBtu	
1601	International Ocean Discovery Building	86,576	006351	ELE	116,903	kWh	(2)
1601	International Ocean Discovery Building	86,576	006382	CHW	284,875	mBtu	(2)
1601	International Ocean Discovery Building	86,576	008144	CHW	63,261	mBtu	(2)
1601	International Ocean Discovery Building	86,576	008145	HHW	11,939	mBtu	(2)
1601	International Ocean Discovery Building	86,576	009829	HHW	36,893	mBtu	(2)
1604	Offshore Technology Research Center	40,014	006659	ELE	90,687	kWh	
1604	Offshore Technology Research Center	40,014	006660	ELE	0	kWh	(2)
1604	Offshore Technology Research Center	40,014	008142	CHW	589,649	mBtu	
1604	Offshore Technology Research Center	40,014	008143	HHW	113,109	mBtu	
1606	George Bush Presidential Library & Museum	121,678	000244	ELE	111,167	kWh	
1606	George Bush Presidential Library & Museum	121,678	002808	CHW	1,394,291	mBtu	
1606	George Bush Presidential Library & Museum	121,678	002812	HHW	319,306	mBtu	(1)
1607	Allen Building	133,327	000243	ELE	105,041	kWh	
1607	Allen Building	133,327	002800	CHW	713,096	mBtu	
1607	Allen Building	133,327	002804	HHW	44,601	mBtu	
1608	Annenberg Presidential Conference Center	65,688	000245	ELE	63,340	kWh	
1608	Annenberg Presidential Conference Center	65,688	002761	CHW	755,539	mBtu	
1608	Annenberg Presidential Conference Center	65,688	002765	HHW	182,513	mBtu	
1609	TTI Headquarters	66,707	006495	ELE	49,201	kWh	
1609	TTI Headquarters	66,707	006496	CHW	374,524	mBtu	
1609	TTI Headquarters	66,707	006497	HHW	18,120	mBtu	
1611	Engineering Research Building	68,807	008462	ELE	169,313	kWh	
1611	Engineering Research Building	68,807	008463	CHW	2,394,184	mBtu	
1611	Engineering Research Building	68,807	008467	HHW	438,371	mBtu	
1800	General Services Complex	203,369	005441	ELE	181,450	kWh	
1800	General Services Complex	203,369	005468	CHW	1,122,880	mBtu	
1800	General Services Complex	203,369	005472	HHW	35,521	mBtu	
1809	New TVMDL	90,000	009652	ELE	122,365	kWh	#, (1)
1809	New TVMDL	90,000	009653	ELE	90,735	mBtu	#, (1)
1809	New TVMDL	90,000	009647	CHW	2,541,542	mBtu	
1810	Office of the State Chemist Building	31,735	009073	ELE	65,123	kWh	
1810	Office of the State Chemist Building	31,735	005460	CHW	584,675	mBtu	
1810	Office of the State Chemist Building	31,735	005464	HHW	57,136	mBtu	
1811	Vet Med Research Bldg Addition	52,993	006705	ELE	229,322	kWh	*
1811	Vet Med Research Bldg Addition	52,993	006706	CHW	1,630,839	mBtu	
1811	Vet Med Research Bldg Addition	52,993	006707	HHW	341,010	mBtu	

Table I-1 September 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
1812-1813	Veterinary Medicine Building 1 and 2	254,952	009404	ELE	176,052	kWh	
1813	Veterinary Medicine Building 2	116,492	009418	ELE	45,105	kWh	
1814	Veterinary Medicine Building 3	135,470	009405	ELE	287,053	kWh	
1812-1813-1814	Veterinary Medicine Building 1, 2 and 3	390,422	009676	CHW	4,848,607	mBtu	
1812-1813-1814	Veterinary Medicine Building 1, 2 and 3	390,422	009410	HHW	506,410	mBtu	
1900	Texas Institute for Genomic Medicine	34,120	005548	ELE	85,721	kWh	
1900	Texas Institute for Genomic Medicine	34,120	005545	CHW	1,847,693	mBtu	*
1900	Texas Institute for Genomic Medicine	34,120	005546	HHW	293,566	mBtu	*, (1)
1904	Texas A&M Institute for Preclinical Studies A	113,559	006364	ELE	169,587	kWh	(2)
1904	Texas A&M Institute for Preclinical Studies A	113,559	006365	CHW	1,804,639	mBtu	(2)
1904	Texas A&M Institute for Preclinical Studies A	113,559	006366	HHW	259,973	mBtu	(2)
1910	National Center for Therapeutics Manufacturing	149,924	007517	ELE	192,793	kWh	
1910	National Center for Therapeutics Manufacturing	149,924	007518	ELE	175,130	kWh	
1910	National Center for Therapeutics Manufacturing	149,924	007519	CHW	4,856,913	mBtu	
1910	National Center for Therapeutics Manufacturing	149,924	007520	HHW	998,659	mBtu	
1911	Multi-Species Research Building	21,000	009138	ELE	26,195	kWh	
1911	Multi-Species Research Building	21,000	009129	CHW	514,274	mBtu	
1911	Multi-Species Research Building	21,000	009133	HHW	159,741	mBtu	(1)
10226	NCTM Manufacturing Building	113,397	007648	CHW	4,176,989	mBtu	#, (1)
10226	NCTM Manufacturing Building	113,397	007649	HHW	752,030	mBtu	
10226	NCTM Manufacturing Building	113,397	008133	HHW	221,580	mBtu	

1 mBtu = 1 000 Btu

NA: Not available
Monthly consumption in blue: Modified values
* : Missing data
# : Questionable data
(1): Consumption estimated and documented in the report *Part II - Data Analysis: Energy Use Estimation and Observations Section 2*
(2): Observation(s) documented in the report *Part II - Data Analysis: Energy Use Estimation and Observations Section 3*
(3): Missing data or changed consumption levels due to construction

II. Data Analysis: Energy Use Estimation and Observation

II-1 Meters with Missing Energy Consumption Data

During the month of September 2017, 36 meters in 21 buildings and complexes have missing daily data. The missing data have been filled in using consumption models based on the past data if available or using linear interpolation or some sort of average, and the monthly consumption has been estimated with the filled-in daily consumption. Table II-1 is the list of meters with missing data.

Table II-1 Meters with missing data during September 2017

Building No.	Building Name	MeterID	Type	Unit	Original Monthly Consumption	Estimated Monthly Consumption	# of Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
0291	Rudder Residence Hall	002132	CHW	mBtu	274,701	675,966	19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M									
0291	Rudder Residence Hall	002136	HHW	mBtu	89,165	238,988	19	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M									
0402	Briggs Hall Dorm 3	009324	CHW	mBtu	427,107	*	1																								A				
0402	Briggs Hall Dorm 3	009328	HHW	mBtu	54,621	*	1																								A				
0435	Harrington Education Center Office Tower	001546	ELE	kWh	130,903		1																												
0433	Mosher Residence Hall	002485	CHW	mBtu	212,434	**	13	M	M	M	M	M	M	M	M	M	M	M	M	M															
0433	Mosher Residence Hall	002489	HHW	mBtu	69,399	**	13	M	M	M	M	M	M	M	M	M	M	M	M	M															
0435	Harrington Education Center Office Tower	001546	ELE	kWh	130,903	*																													
0441	Krueger Residence Hall	002504	CHW	mBtu	7,634,522	**	21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M								
0441	Krueger Residence Hall	002500	HHW	mBtu	4,149,759	**	21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M								
0456	Military Science Building	006939	CHW	mBtu	NA	544,831	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0456	Military Science Building	006943	HHW	mBtu	NA	171,185	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0468	Evans Library	000319	ELE	kWh	102,065	*	1																												
0481	Heaton Hall	005712	ELE	kWh	NA	NA	30																												
0499	Engineering Innovation Center	002672	CHW	mBtu	31,381	105,625	20										M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0499	Engineering Innovation Center	002683	HHW	mBtu	10,181	34,972	20										M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0518	Zachry Engineering Education Complex	009874	ELE	kWh	(27,105,880)	**	14	A	A	A	A	A	A	A	A	A	A	A	A	A	A														
0518	Zachry Engineering Education Complex	009875	ELE	kWh	(50,743,430)	**	14	A	A	A	A	A	A	A	A	A	A	A	A	A	A														
0518	Zachry Engineering Education Complex	009964	CHW	mBtu	2,337,753	**	7	M	M	M	M	M																			M	M			
0518	Zachry Engineering Education Complex	009965	HHW	mBtu	224,611	**	7	M	M	M	M	M																			M	M			
0971	Dollar Data Center	010002	ELE	kWh	NA	128,878	30	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
0971	Dollar Data Center	010003	ELE	kWh	NA	30,159	30	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
1026	Veterinary Medicine Administration	006072	ELE	kWh	125,714	*	2									M									M										
1454	University Apartments - The Gardens F	006980	ELE	kWh	NA	22,110	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1455	University Apartments - The Gardens G	006882	ELE	kWh	NA	21,009	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1511	West Campus Library Facility	004313	CHW	mBtu	334,126	753,153	4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M										
1511	West Campus Library Facility	004318	HHW	mBtu	30,185	81,916	4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M										
1513	Borlaug Center for Southern Crop Improvement	005802	ELE	kWh	238,825	286,590	5	A	A	A	A	A																							
1513	Borlaug Center for Southern Crop Improvement	005936	CHW	mBtu	1,258,978	1,576,479	5	M	M	M	M	M																							
1513	Borlaug Center for southern Crop Improvement	005895	HHW	mBtu	106,576	129,597	5	M	M	M	M	M																							
1537	Wildlife Fisheries & Ecological Sciences Building	009982	ELE	kWh	40,668	87,145	16	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A												
1554	Reed Arena	006243	ELE	kWh	NA	785	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1554	Reed Arena	006244	ELE	kWh	NA	85,393	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1811	Vet Med Research Bldg Addition	006705	ELE	kWh	229,322	*	1																											A	
1900	Texas Institute for Genomic Medicine	005545	CHW	mBtu	1,808,791	1,847,693	1	M																											
1900	Texas Institute for Genomic Medicine	005546	HHW	mBtu	367,543	**	1	M																											

* Monthly consumption evaluated from the cumulative data is not affected by the missing data.
** See Table II-2 for the estimated consumption.
*** Consumption is not estiamted because reliable consumtpion model is not available.
NA: Not available

II-2 Meters with Estimated Consumption for Problematic Data

During the month of September 2017, 50 meters in 35 buildings have estimated daily consumption because the recorded consumption is found to be problematic or questionable. For each of these meters, alternative consumption has been estimated using the best possible method. Table II-2 lists these meters with indications of the days with estimated data. Detailed descriptions for individual cases follow.

Table II-2 Meters with problematic data during September 2017

Building No.	Building Name /MeterID(s)	Type	Unit	Original Monthly Consumption	Estimated Monthly Consumption	# of days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
0292	**Eppright Residence Hall**																																			
	002266	HHW	mBtu	277,747	176,317	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0383	**Koldus Building**																																			
	002874	HHW	mBtu	4,973	132,157	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0419	**Legett Residence Hall**																																			
	002222	HHW	mBtu	60,733	69,312	21					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M					
0430	**Schumacher Residence Hall**																																			
	002030	HHW	mBtu	71,608	29,245	28																			M	M	M									
0433	**Mosher Residence Hall**																																			
	002485	CHW	mBtu	**	1,896,475															M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	002489	HHW	mBtu	**	523,717															M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0440	**Commons Hall**																																			
	009237	CHW	mBtu	1,370,078	785,951	28	M	M	M	M	M																									
	009238	HHW	mBtu	139,200	123,539	28	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0441	**Krueger Residence Hall**																																			
	002504	CHW	mBtu	**	943,712	9																					M	M	M	M	M	M	M	M	M	M
	002500	HHW	mBtu	**	188,578	9																					M	M	M	M	M	M	M	M	M	M
0446	**Rudder Theatre Complex**																																			
	002977	ELE	kWh	48,109	99,924	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	002980	ELE	kWh	28,208	32,053	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	004297	CHW	mBtu	826,387	1,879,082	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	004309	HHW	mBtu	212,410	802,925	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0448	**Adams Band Hall**																																			
	002555	CHW	mBtu	392,717	503,959	20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M										M	M	M
	002566	HHW	mBtu	91,191	268,894	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0467	**Biological Sciences Building - East**																																			
	003851	CHW	mBtu	818,742	977,658	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0468	**Evans Library**																																			
	005303	HHW	mBtu	28,144	24,494	3	M	M	M																											
	003712	HHW	mBtu	334,336	119,903	26					M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0474	**YMCA Building**																																			
	007526	HHW	mBtu	1,249	9,423	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0477	**Anthropology Building**																																			
	003668	HHW	mBtu	63,028	30,708	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0490	**Halbouty Geosciences Building**																																			
	006896	CHW	mBtu	1,706,083	1,497,707	22	M	M	M	M	M	M								M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
0506	**Nagle Hall**																																			
	001484	ELE	kWh	2,638	12,596	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	003619	CHW	mBtu	330,126	369,167	5																										M	M	M	M	M
0511	**Heep Laboratory Building**																																			
	005821	CHW	mBtu	405,057	692,708	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	005825	HHW	mBtu	115,971	168,457	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0512	**All Faiths Chapel**																																			
	004293	HHW	mBtu	4,642	25,416	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0513	**Doherty Building**																																			
	002898	CHW	mBtu	755,589	962,973	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0516	**Computing Services Center**																																			
	003959	CHW	mBtu	1,709,679	1,557,985	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0518	**Zachry Engineering Education Complex**																																			
	009874	ELE	kWh	**	132,769	16															F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	009875	ELE	kWh	**	88,825	16															F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	009964	CHW	mBtu	**	2,808,918	1																												M		
	009965	HHW	mBtu	**	258,501	1																												M		
0520	**Beutel Health Center**																																			
	003933	CHW	mBtu	601,720	519,736	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	003944	HHW	mBtu	41,543	48,286	6																									M	M	M	M	M	M
0549	**Haas Residence Hall**																																			
	002983	CHW	mBtu	1,280,124	1,049,817	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	002994	HHW	mBtu	502,251	530,839	5																										M	M	M	M	M
0652	**Neeley Residence Hall**																																			
	002151	HHW	mBtu	137,506	250,896	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
0815	**Entomology Research Lab**																																			
	005799	ELE	kWh	25,459	32,300	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	006043	CHW	mBtu	126,567	163,803	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1501	**Kleberg Center**																																			
	002628	HHW	mBtu	269,111	563,096	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1512	**Southern Crop Improvement Greenhouse**																																			
	005931	ELE	kWh	120,524	103,272	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1519	**TX School of Rural Public Health B**																																			
	005274	ELE	kWh	105,658	56,247	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1520	**TX School of Rural Public Health C**																																			
	005275	ELE	kWh	56,247	105,658	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1536	**AgriLife Services Building**																																			
	007573	HHW	mBtu	36,467	15,138	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1559	**West Campus Parking Garage**																																			
	004327	HHW	mBtu	9,798	6,115	25						M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1606	**George Bush Presidential Library & Museum**																																			
	002812	HHW	mBtu	503,850	319,306	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1809	**New TVMDL**																																			
	009652	ELE	kWh	122,364,747	122,365	30	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	009653	ELE	kWh	90,735,122	90,735	30	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1900	**Texas Institute for Genomic Medicine**																																			
	005546	HHW	mBtu	**	293,566	5																					M	M	M						M	M
1911	**Multi-Species Research Building**																																			
	009133	HHW	mBtu	227,172	159,741	30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
10226	**NCTM Manufacturing Building**																																			
	007648	CHW	mBtu	5,425,765	4,176,989	4							M	M								M	M													

NA: Not available

** See Table II-1 for the original consumption.

Notes: The colored cells means the consumption for the day appears to be problematic. The letter in the colored cell indicates the method for estimation. M: model, F: multiplication factor, L: linear interpolation, A: average, and C: correction of the reset cumulative reading

Eppright Residence Hall (TAMU Bldg #292)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002266	30	9/1/2017 – 9/30/2017	Model

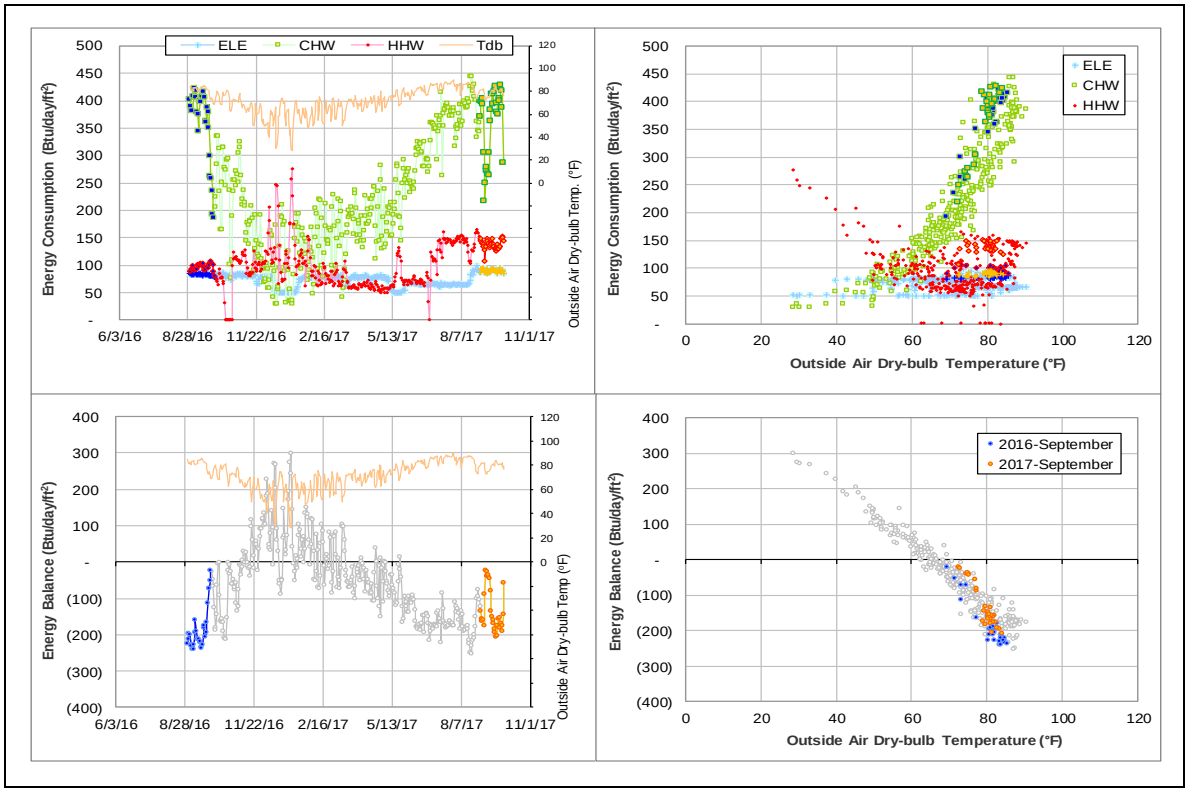
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level is higher than the level during the past year.	7/15/2017– ongoing

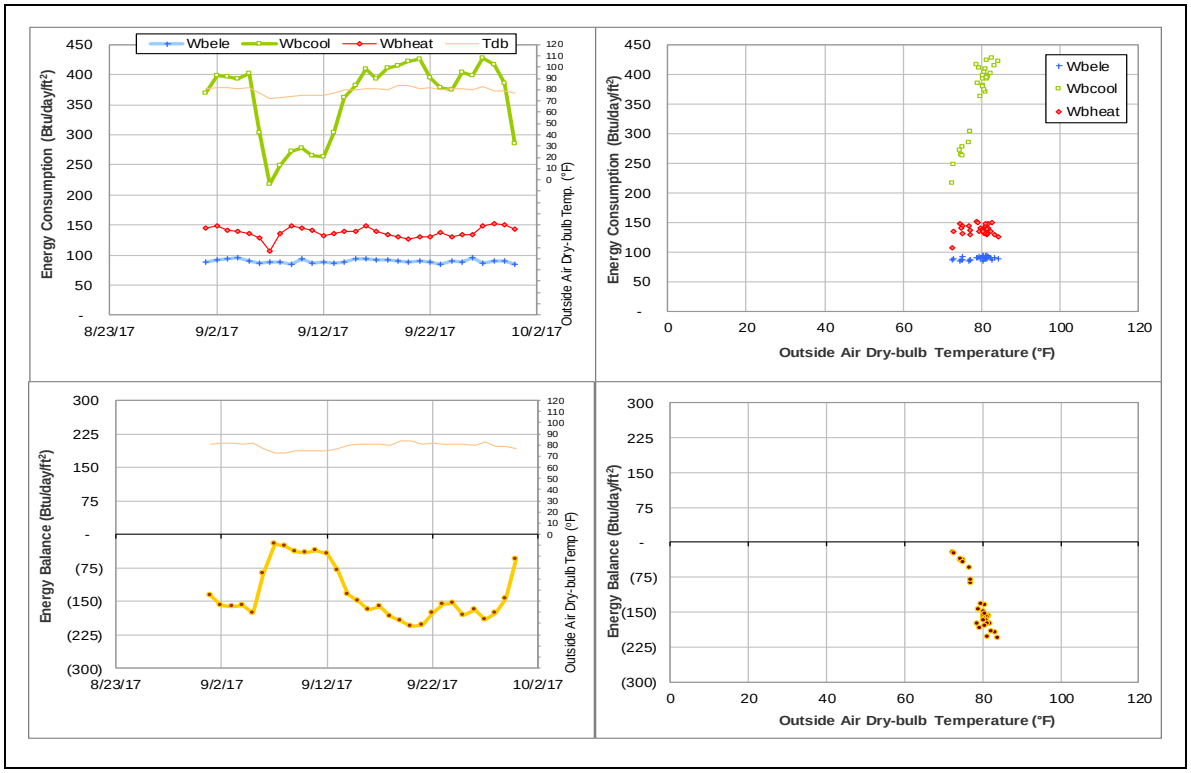
Quantitative descriptions and comments

The HHW consumption was 60 – 100 Btu/day/ft^2 higher than the previous year starting around 7/15/2017. The consumption was estimated by a model.

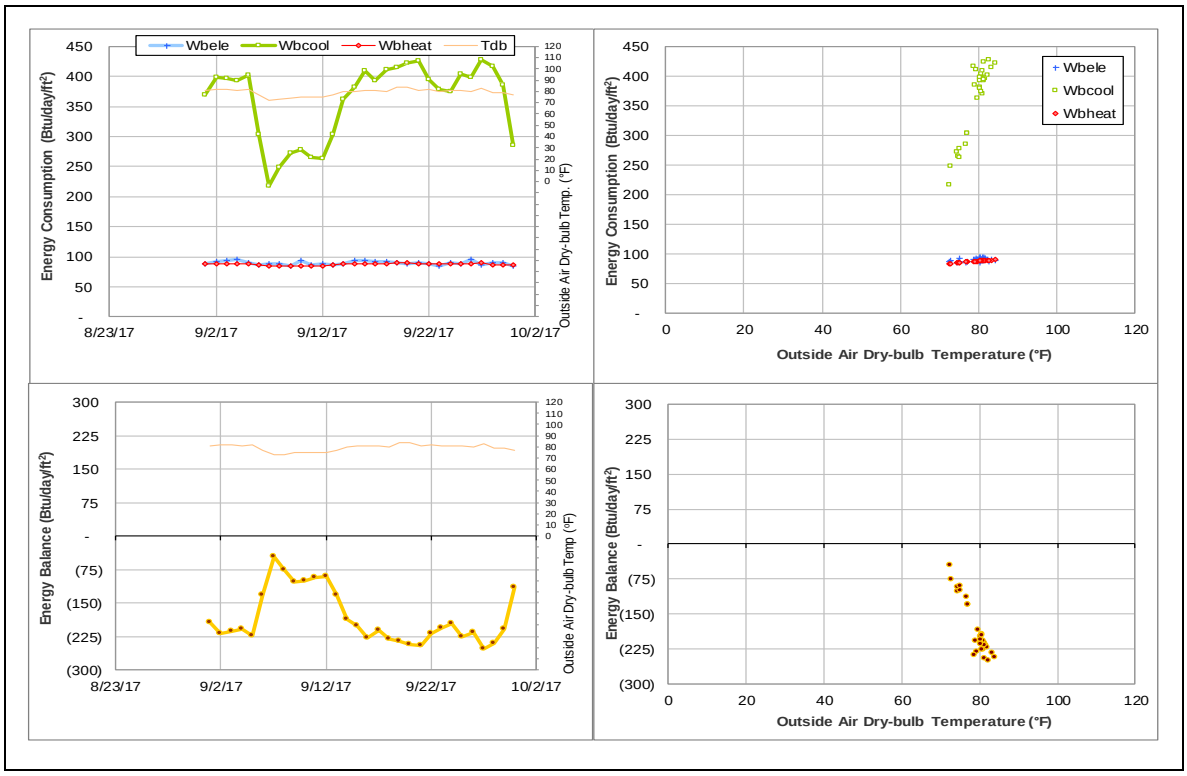
Explanatory Figure: 13 months energy balance plot with original data.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Koldus Building (TAMU Bldg #383)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002874	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The metered values appear to be faulty.	3/12/2017 – ongoing

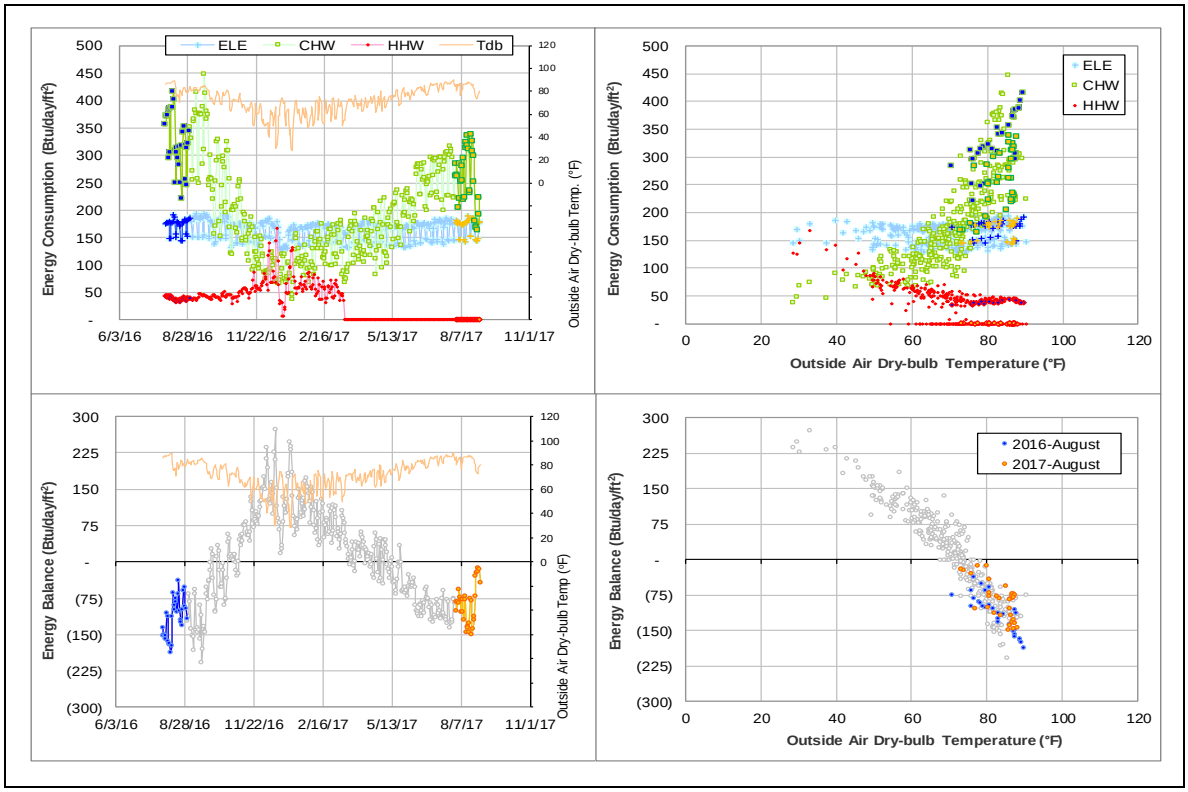
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002874	3/12/2017 - ongoing	Flow rate	Near zero

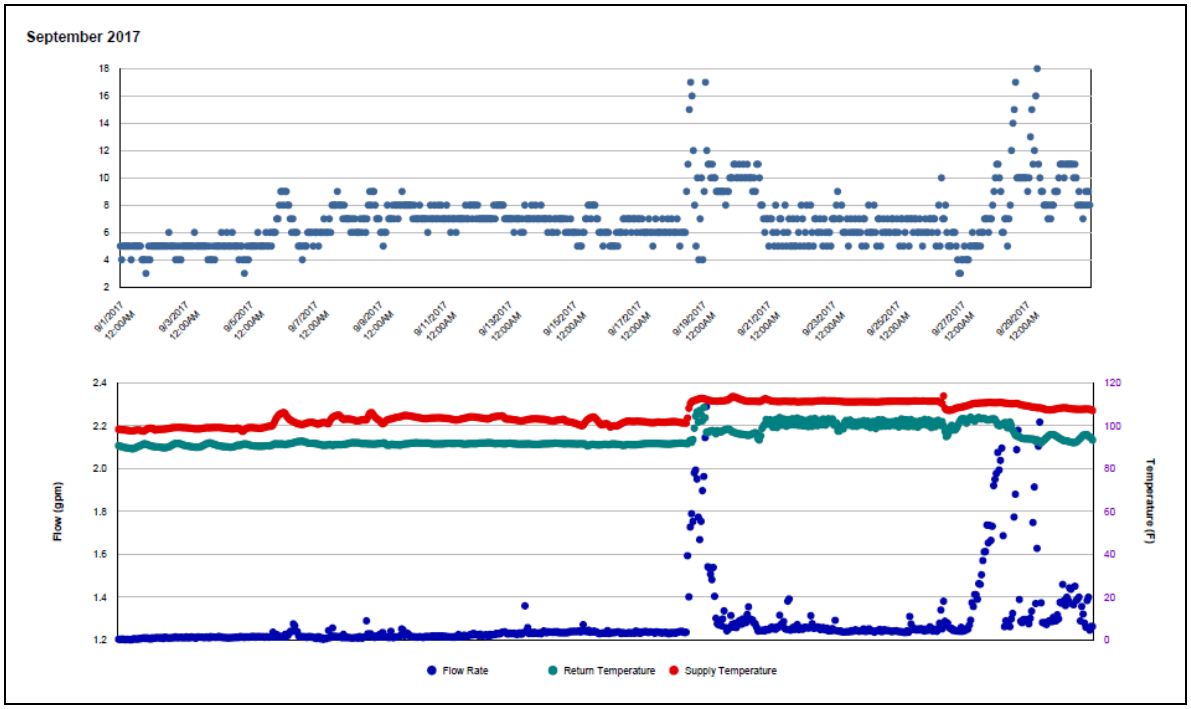
Quantitative descriptions and comments

The HHW consumption dropped to zero since 3/12/2017 due to a flow rate near zero. The consumption was estimated by a model.

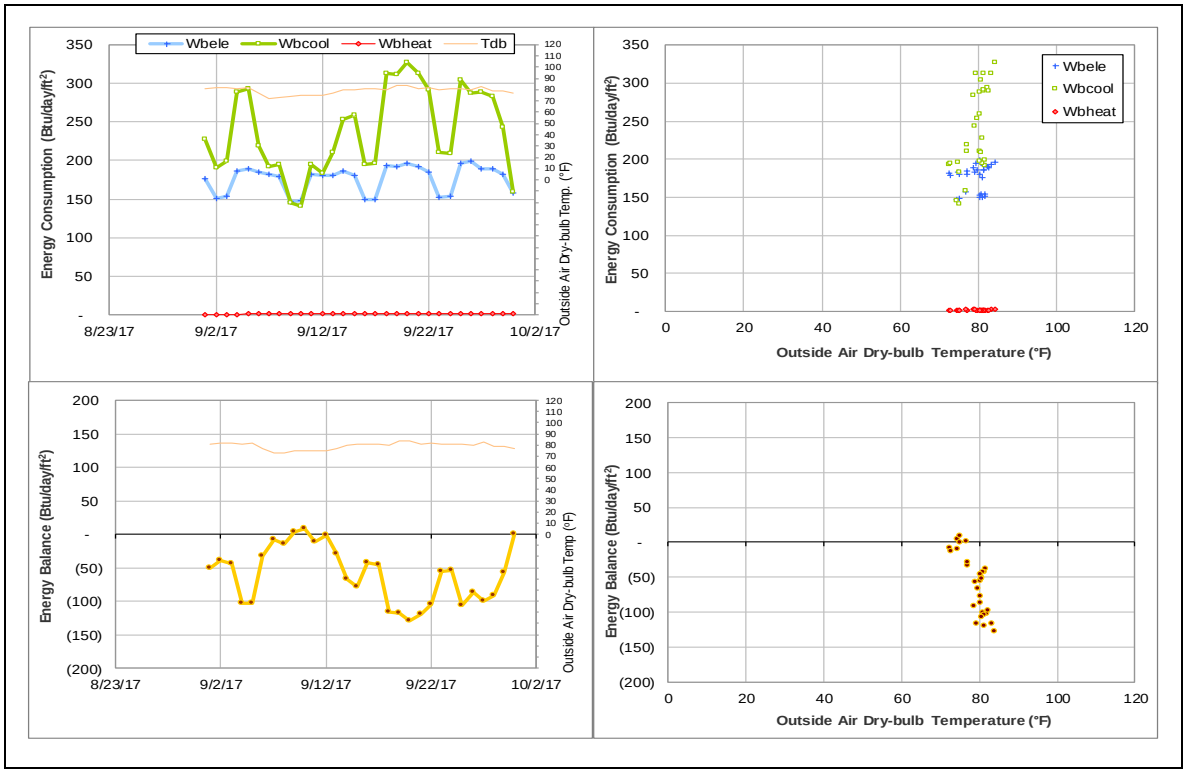
Explanatory Figure: 13 months energy balance plot with original data.



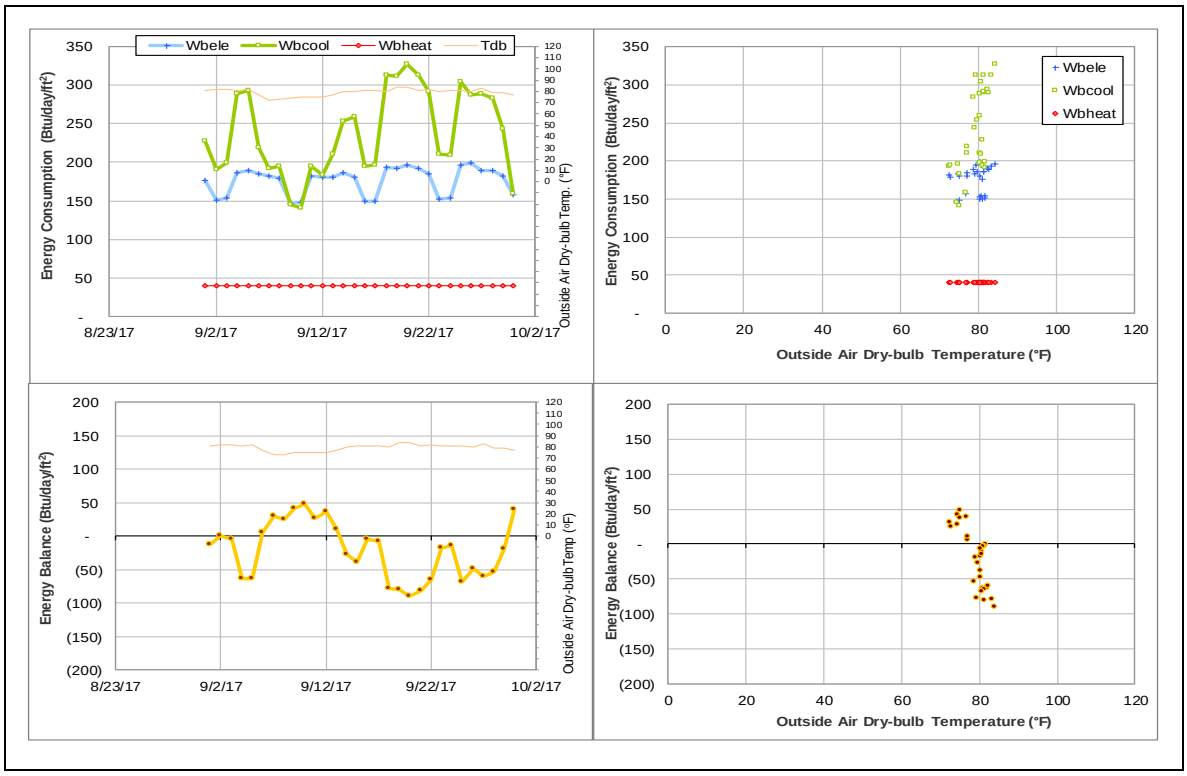
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Legett Residence Hall (TAMU Bldg #419)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002222	26	9/5/2017 – 9/25/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	Abnormal patterns are observed.	8/10/2017 – Ongoing

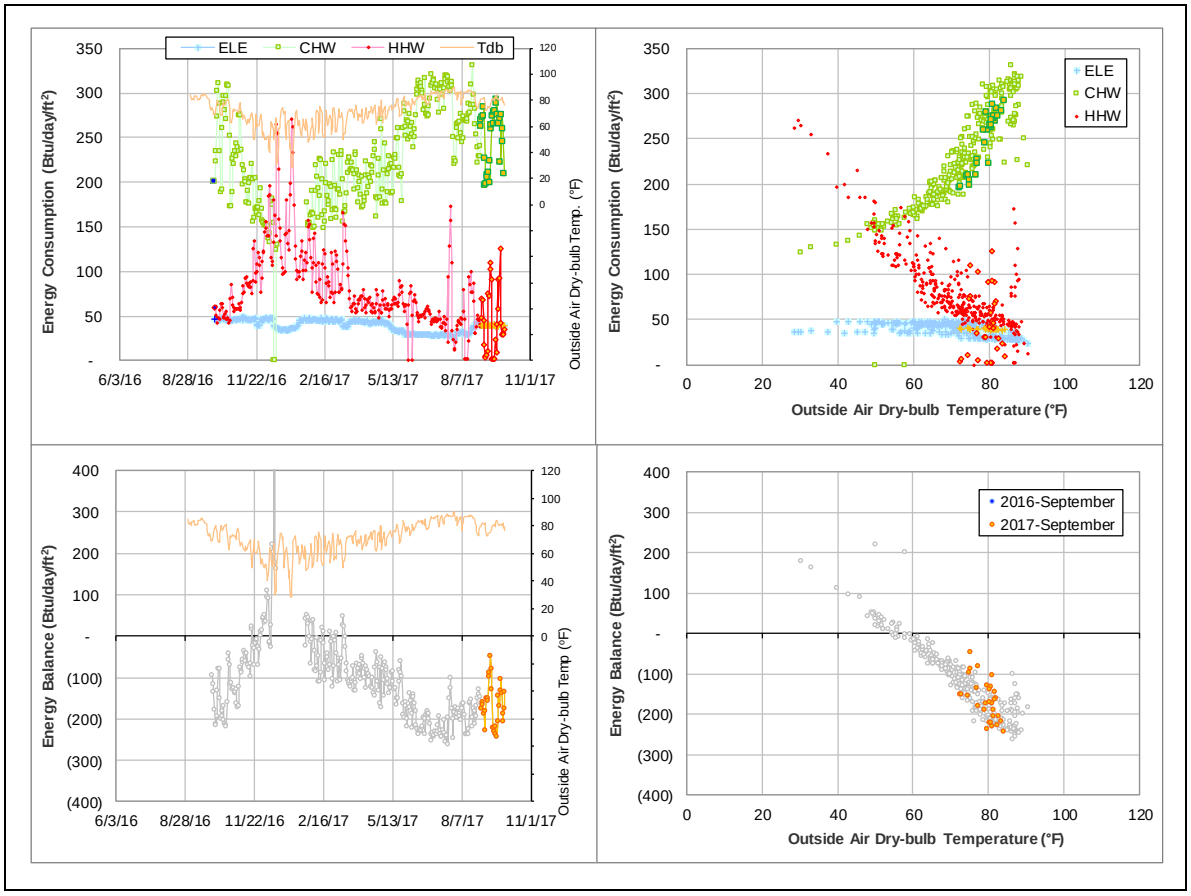
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002222	8/10/2017 – Ongoing	Flow rate	Fluctuate widely

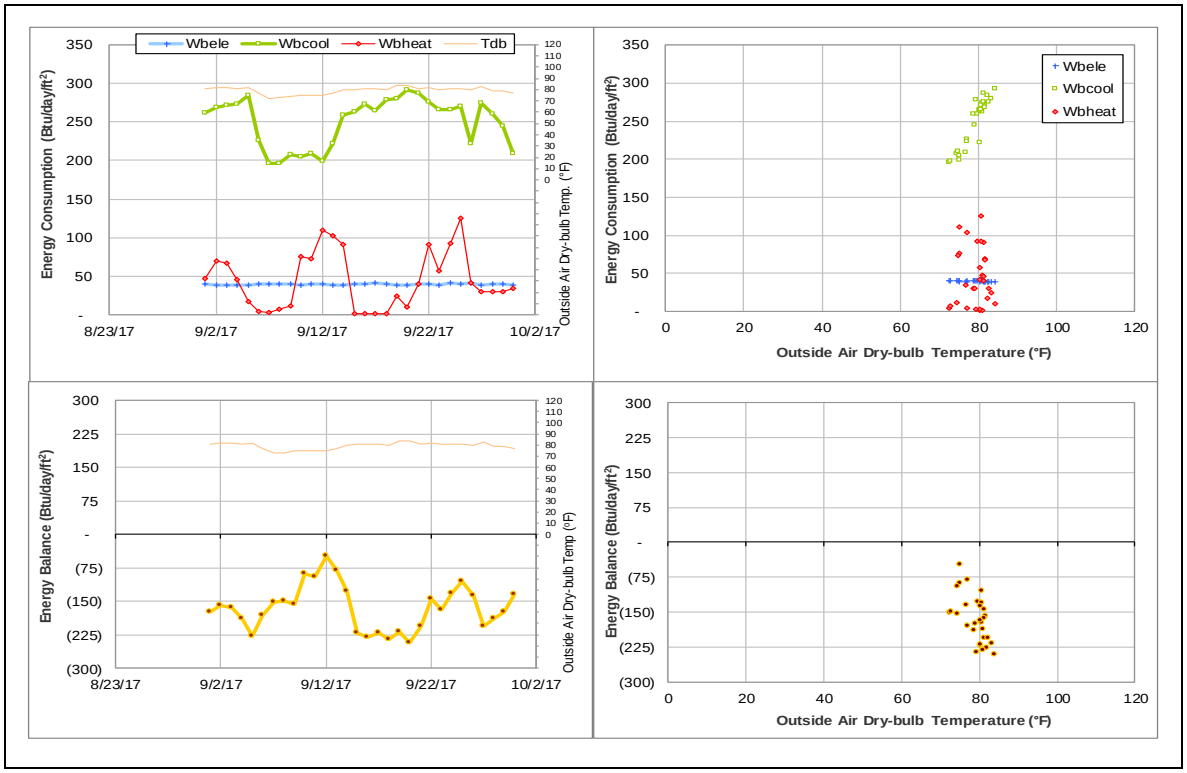
Quantitative descriptions and comments

The HHW consumption fluctuate widely since 8/10/2017 majorly caused by the change of the flow rate. The consumption during 9/5/2017 – 9/25/2017 are estimated using a model based on the data during 9/1/2016 – 8/31/2017.

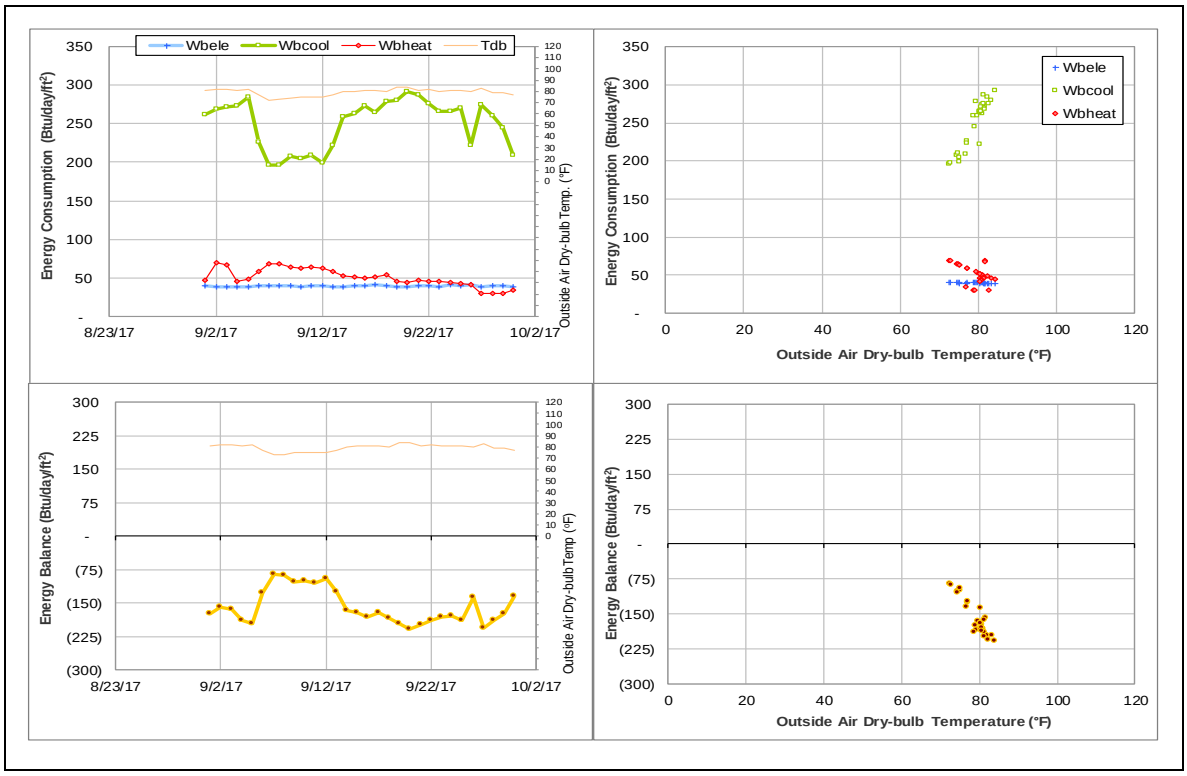
Explanatory Figure: 13 months energy balance plot with original data. (The plot is rescaled to remove the spikes.)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Schumacher Residence Hall (TAMU Bldg #430)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002030	3	9/19/2017 – 9/21/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption increased for a short period. The metered values appear to be faulty.	9/19/2017 – 9/21/2017

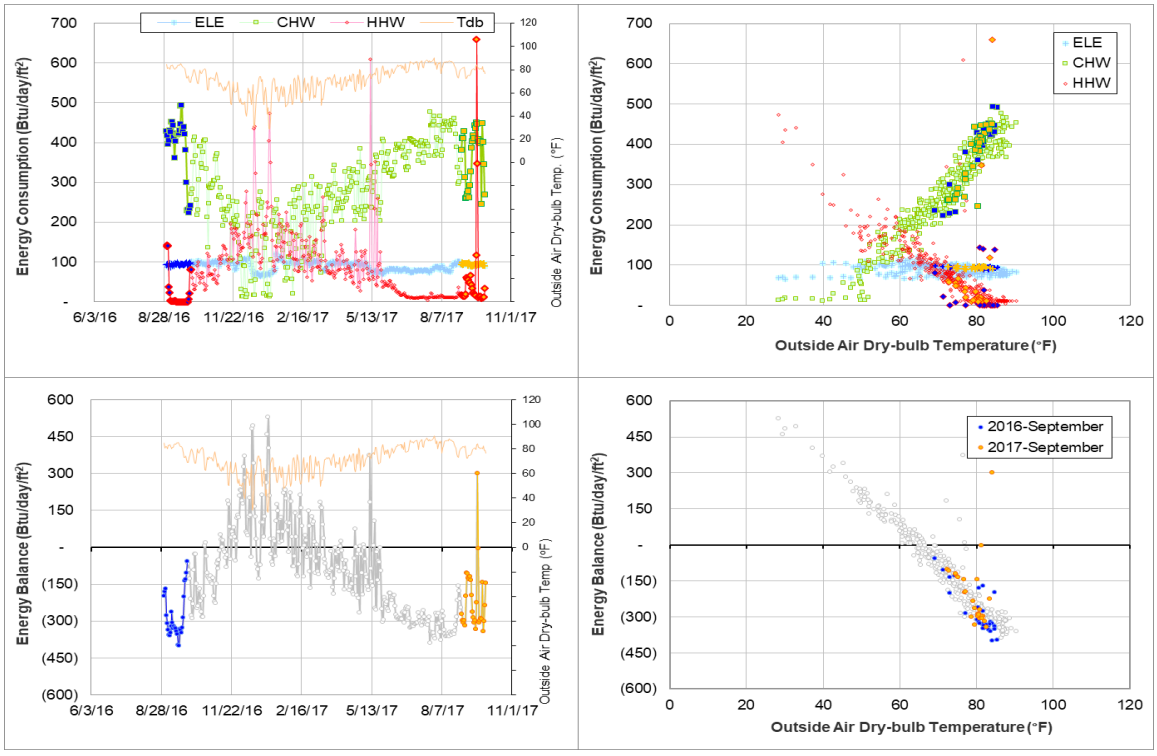
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002030	9/19/2017 – 9/21/2017	Flow rate	Increased and maintained at a constant value

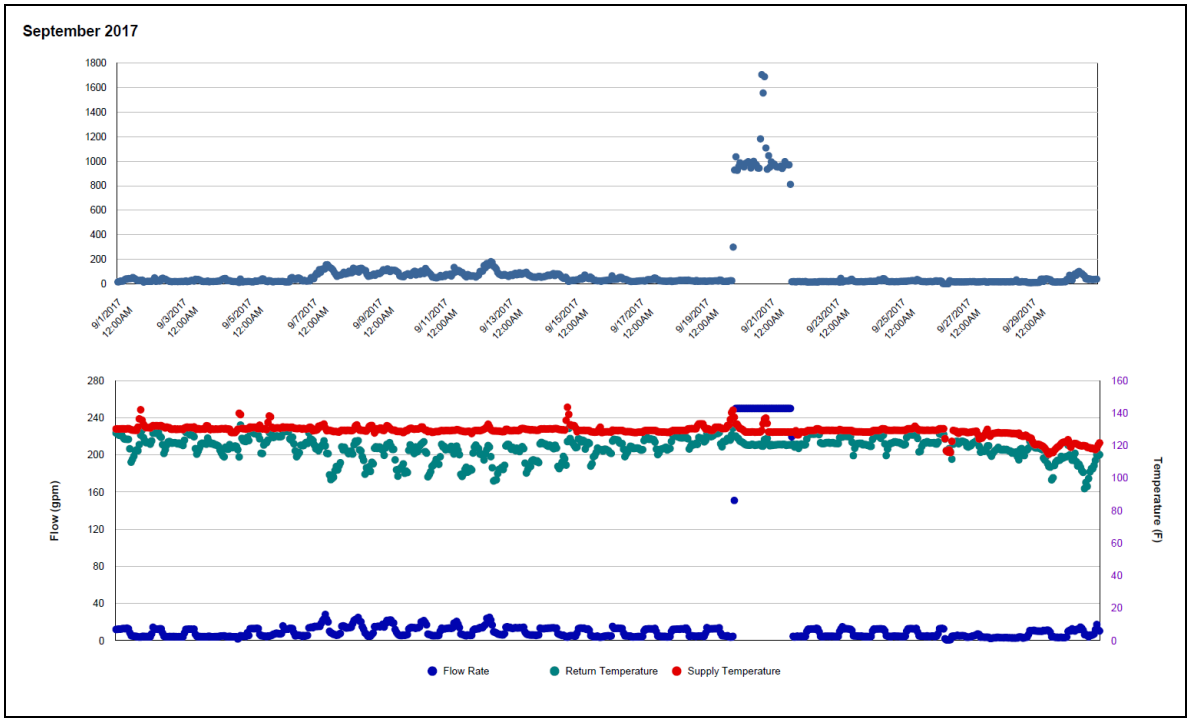
Quantitative descriptions and comments

From 9/19/2017 to 9/21/2017, the HHW flow rate increased from below 20 gpm to over 240 gpm and maintained at a constant value. The HHW consumption was estimated by model for this period.

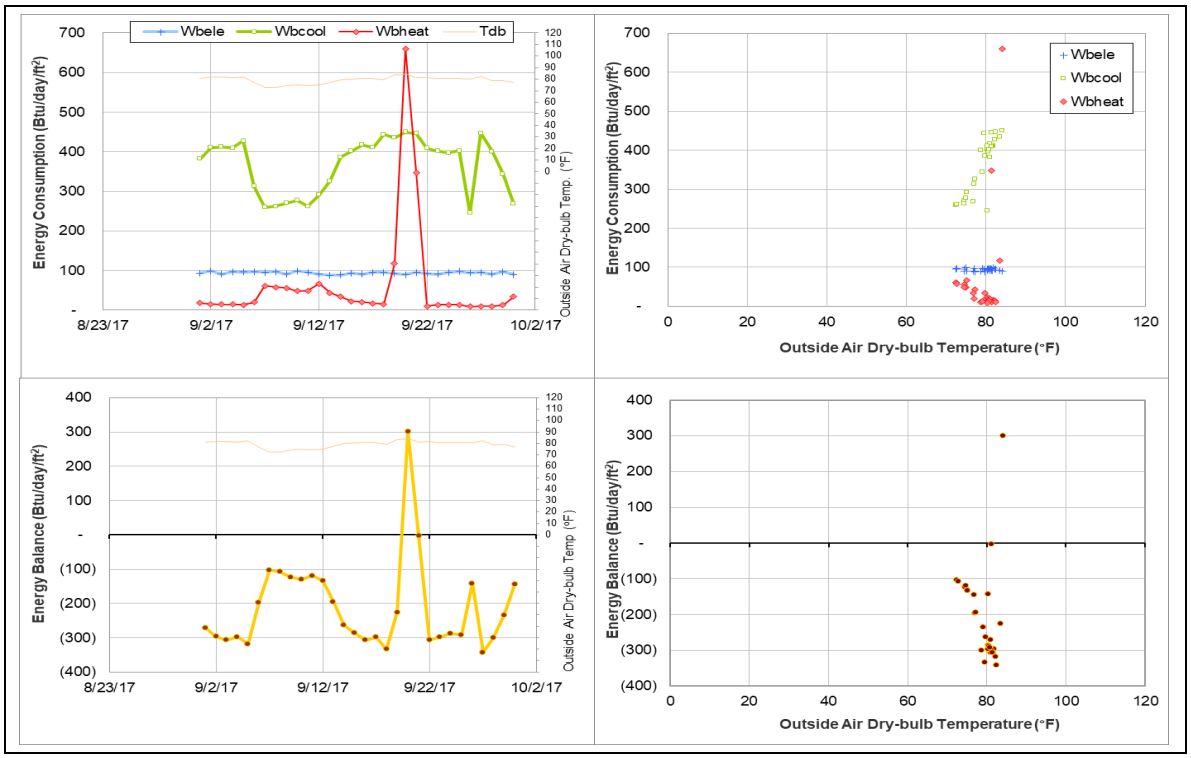
Explanatory Figure: 13 months energy balance plot with original data



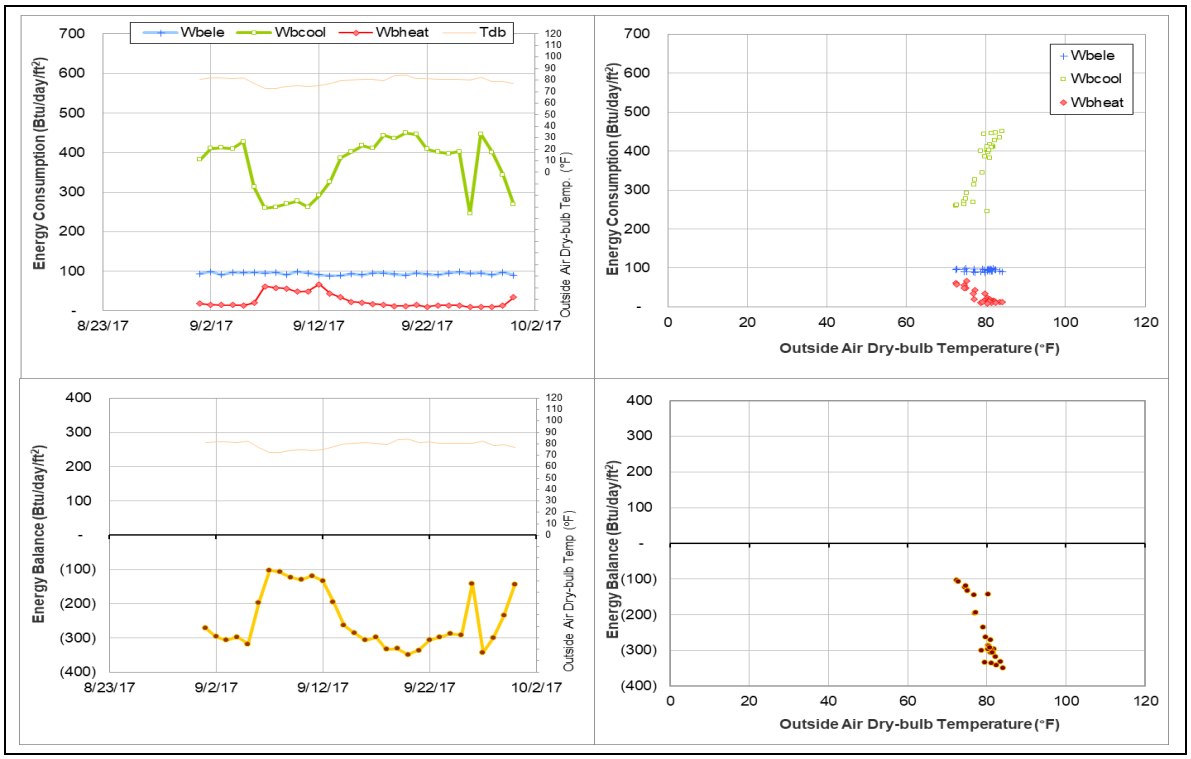
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Mosher Residence Hall (TAMU Bldg #433)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002485	17	9/14/2017 – 9/30/2017	Model
HHW	002489	17	9/14/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level has decreased significantly.	9/14/2017 – Ongoing
HHW	The consumption level has decreased significantly.	9/14/2017 – Ongoing

Changes in sensor readings related to the detected issues

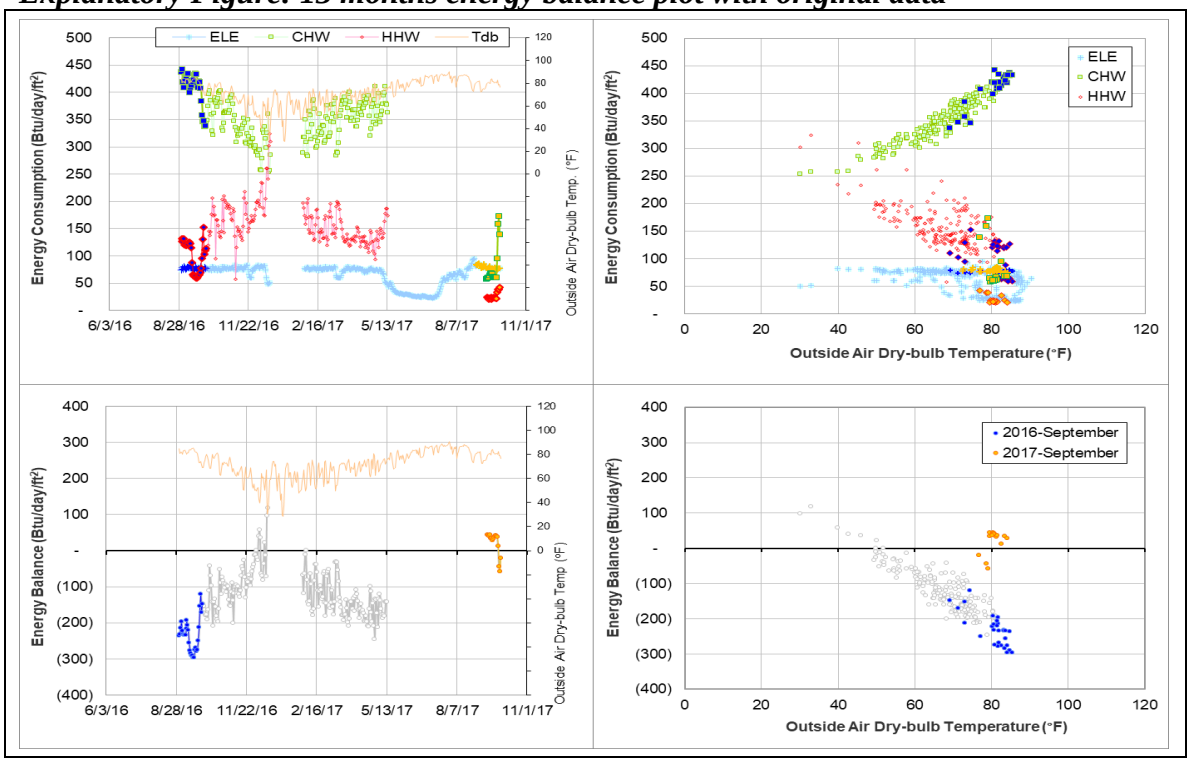
Energy Type	Meter ID	Period	Type	Description
CHW	002485	9/14/2017 – Ongoing	Flow rate	Decreased
		9/14/2017 – 9/27/2017	Supply temperature	High, around 50°F
		9/27/2017 – 9/28/2017	Supply temperature	Below than 40°F
HHW	002489	9/14/2017 – Ongoing	Flow rate	Decreased

Quantitative descriptions and comments

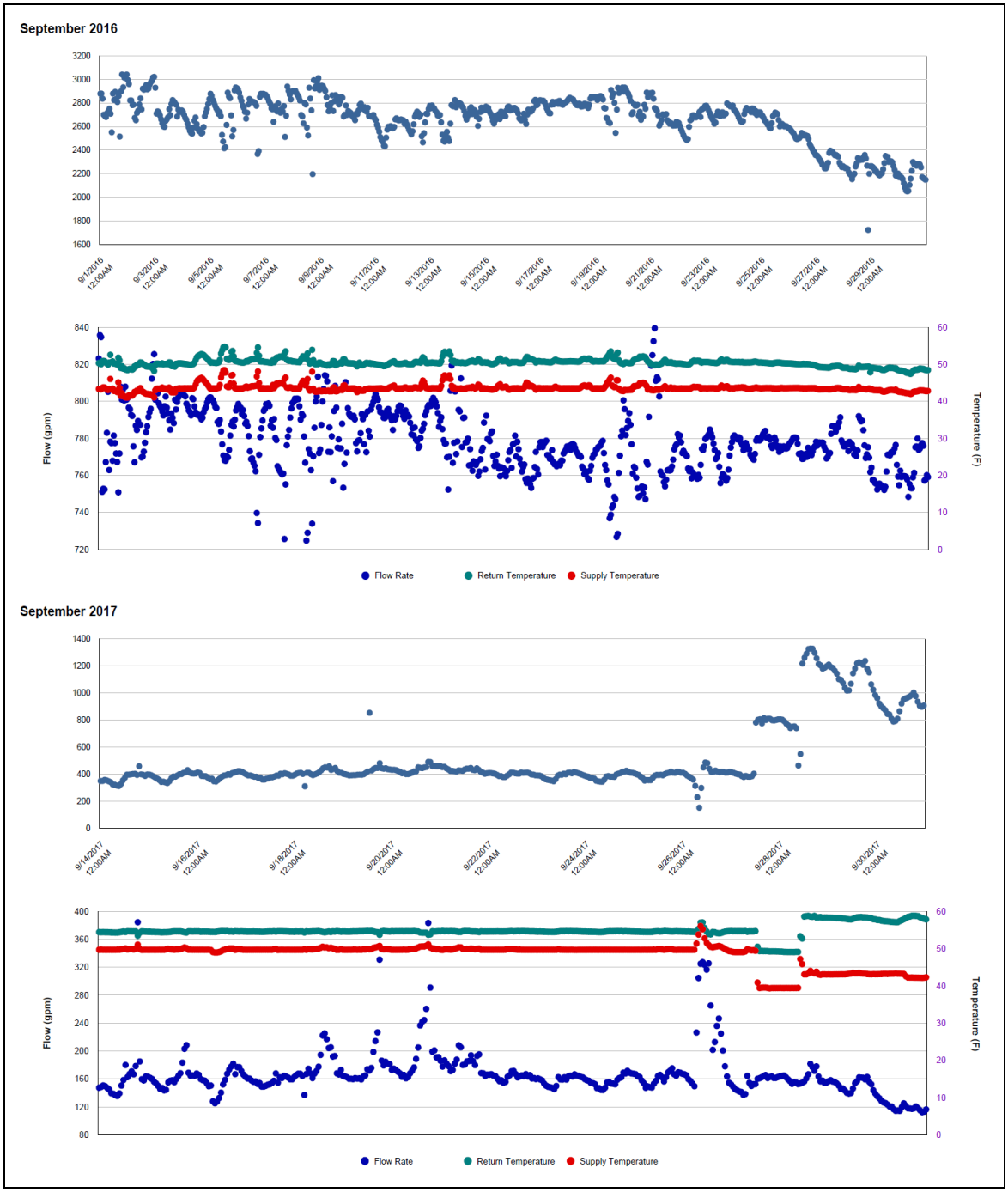
During May through August 2017, Mosher Residence Hall underwent HVAC renovation. Post-renovation CHW and HHW data started on 9/14/2017, however the consumption level is significantly lower by 60 – 80% when compared to levels prior to renovation. The CHW flow rate decreased from 760 – 810 gpm range in Sep 2016 to a 100 – 200 gpm range in Sep 2017. The CHW supply temperature has also been fluctuating. From 9/14/2017 – 9/27/2017, it has been high around 50°F and then drops to just below 40°F for 9/27/2017 – 9/28/2017. After 9/28/2017, the supply temperature appears to have settled around 43°F.

The HHW flow rate decreased from 240 – 265 gpm range in Sep 2016 to an 11 – 24 gpm range in Sep 2017. The energy balance cross-point temperature at these lower consumption levels is around 80°F, which seems unreasonable for this residence hall. So, the CHW and HHW consumption was estimated by model using a baseline period prior to renovation.

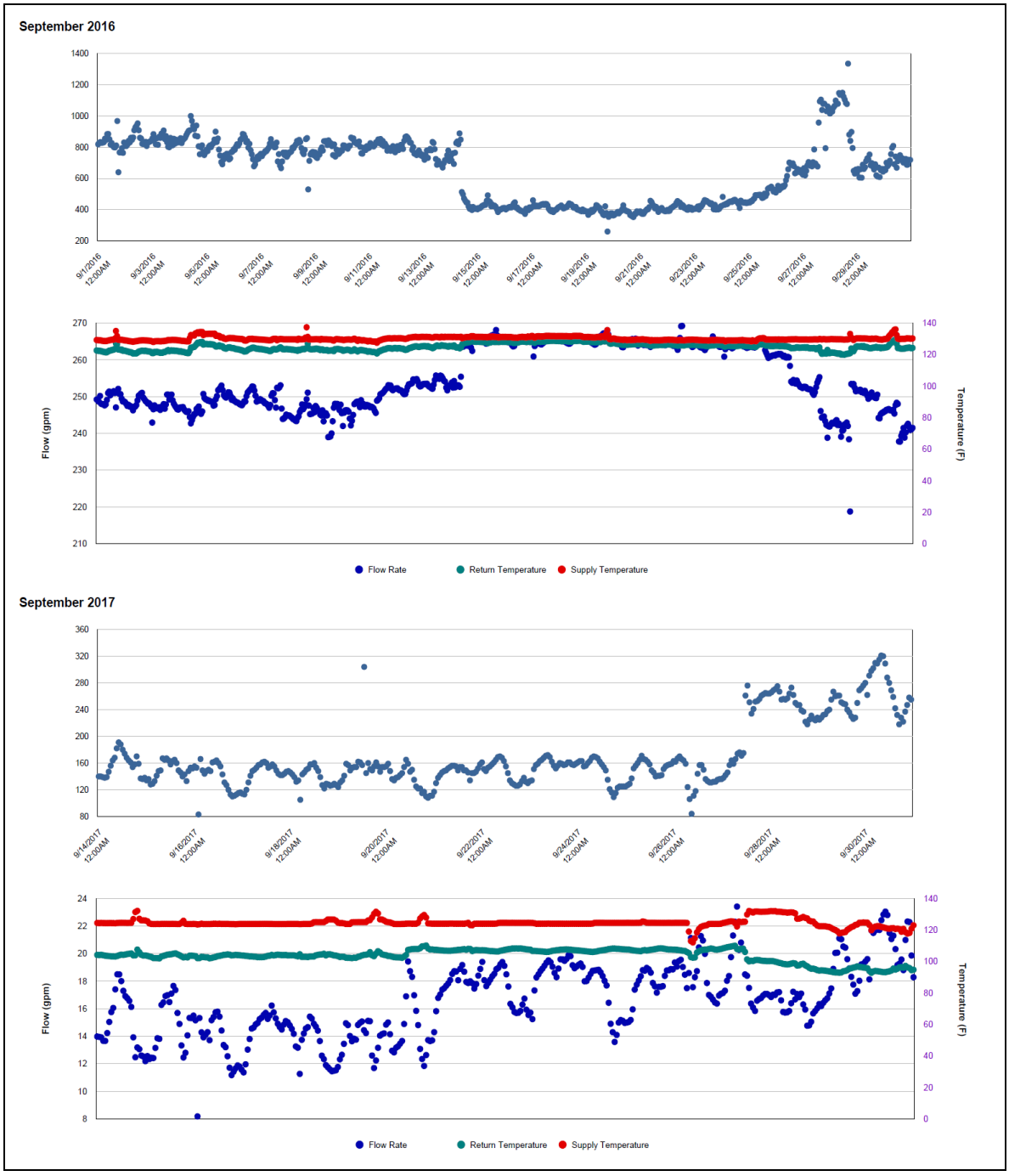
Explanatory Figure: 13 months energy balance plot with original data



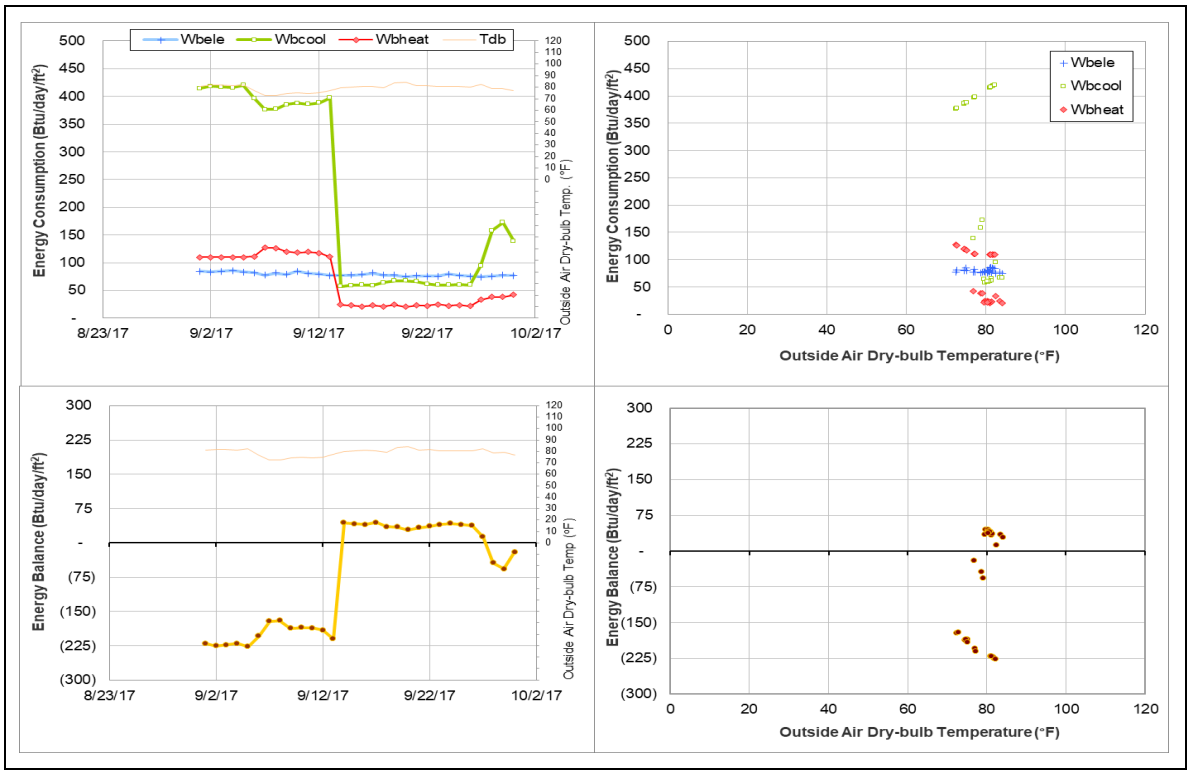
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during Sep 2016 (top) and Sep 2017 (bottom))



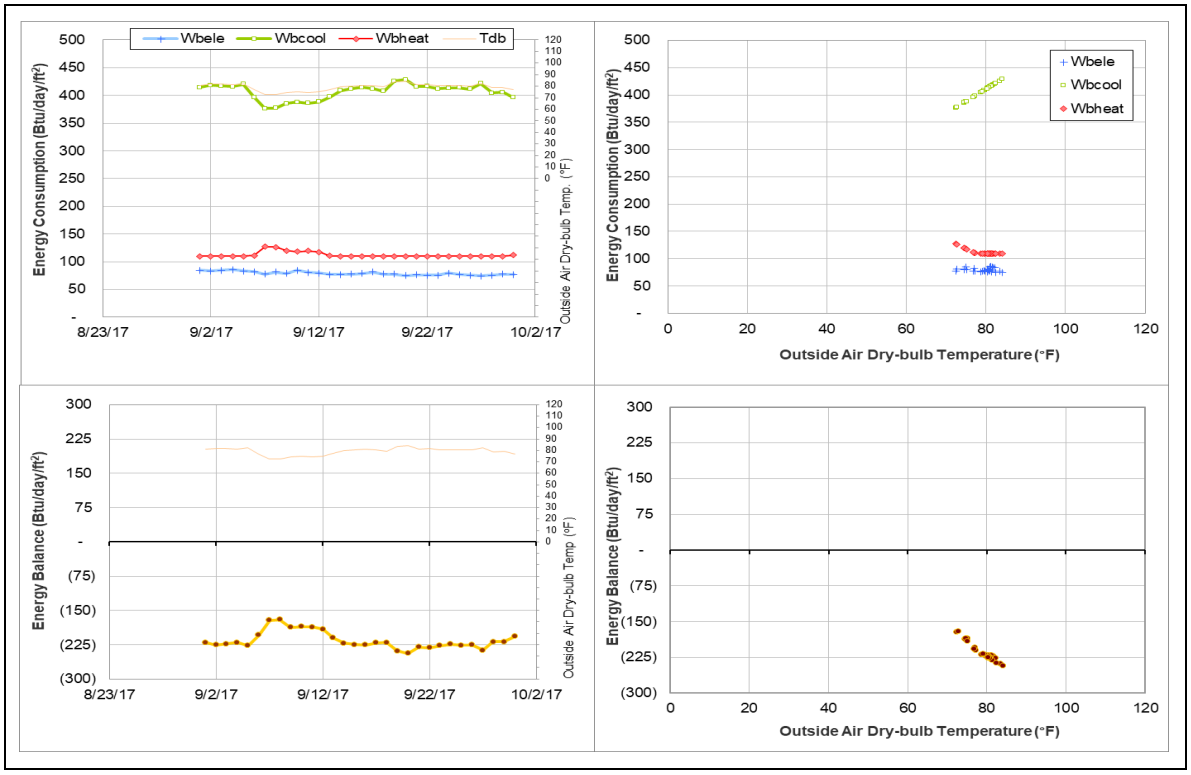
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during Sep 2016 (top) and Sep 2017 (bottom))



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Commons Hall (TAMU Bldg #440)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	009237	30	9/1/2017 – 9/30/2017	Model
HHW	009238	28	9/1/2017 – 9/5/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is higher than the level during the past year.	8/4/2017 – Ongoing
HHW	The consumption level is higher than the level during the past year.	8/4/2017 – 9/5/2017

Changes in sensor readings related to the detected issues

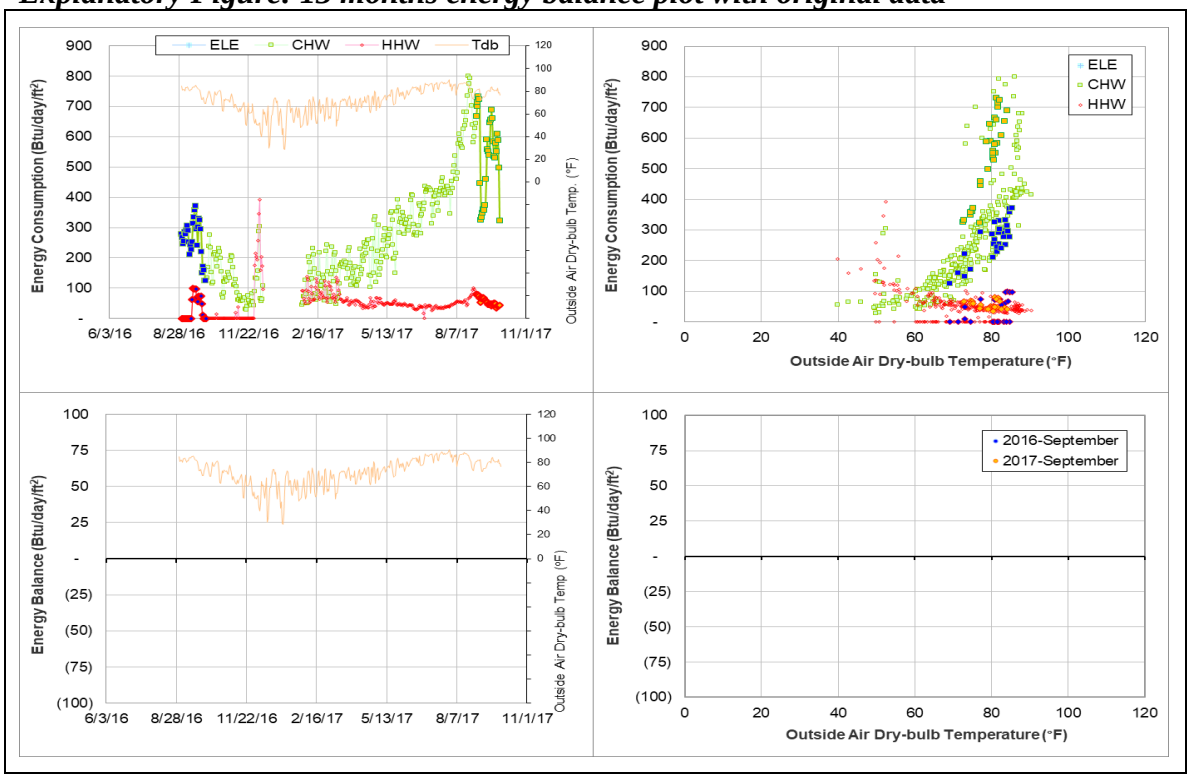
Energy Type	Meter ID	Period	Type	Description
CHW	009237	8/4/2017 – Ongoing	Flow rate	Increased
		9/6/2017 – Ongoing	Delta-T	Increased
HHW	009238	8/4/2017 – 9/5/2017	Flow rate	Increased

Quantitative descriptions and comments

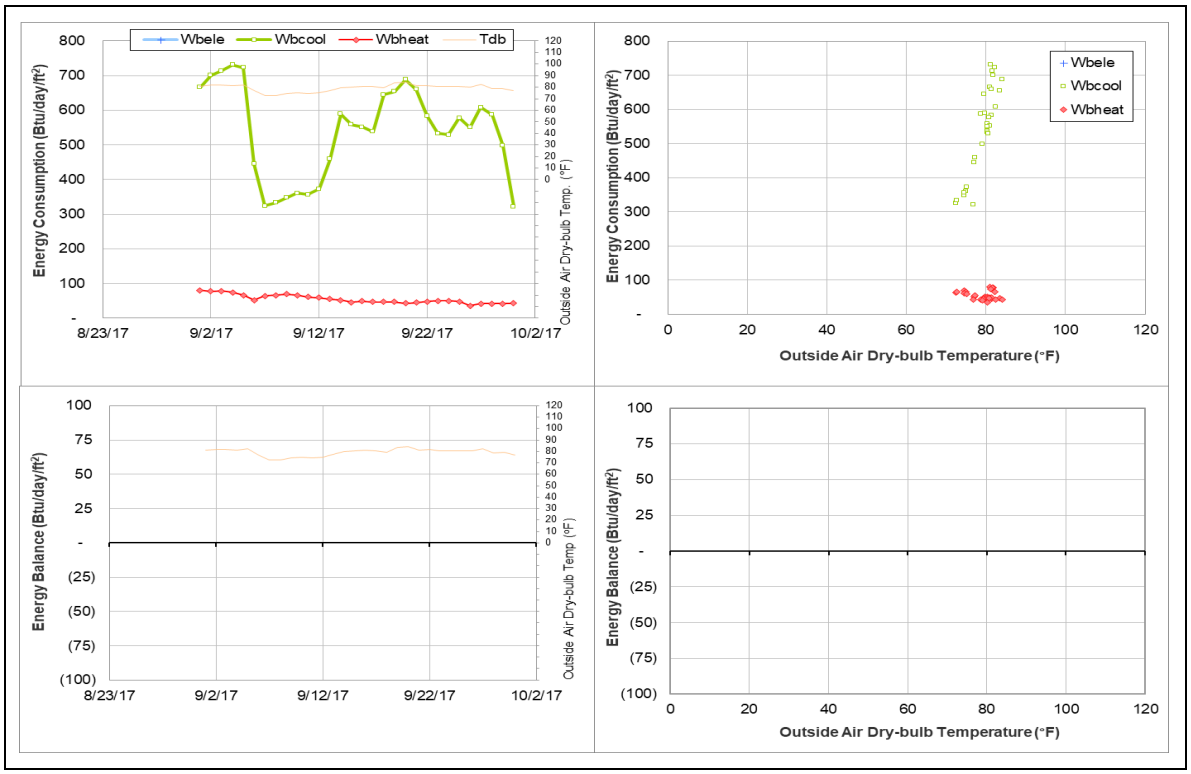
The CHW consumption pattern is higher than the past year by up to 50% (approx. 360 Btu/day/ft^2 increase). The increase initially seemed related to an increase in CHW flow rate. However, on 9/6/2017, the flow rate decreased about 100 – 200 gpm but the Delta-T increased about 5°F. Even with these changes, the overall consumption pattern is still high. The CHW consumption for this period was estimated by model.

Similar to CHW, HHW consumption pattern is higher than the past year by 10 - 45 Btu/day/ft^2 with the greater increase during the cooler outside temperatures. This increase seems related to an increase in HHW flow rate. On 9/6/2014, the HHW flow rate decreased about 8 gpm (33%) and the consumption pattern returned to the level of the 13-month HHW pattern. The HHW consumption for this period was estimated by model.

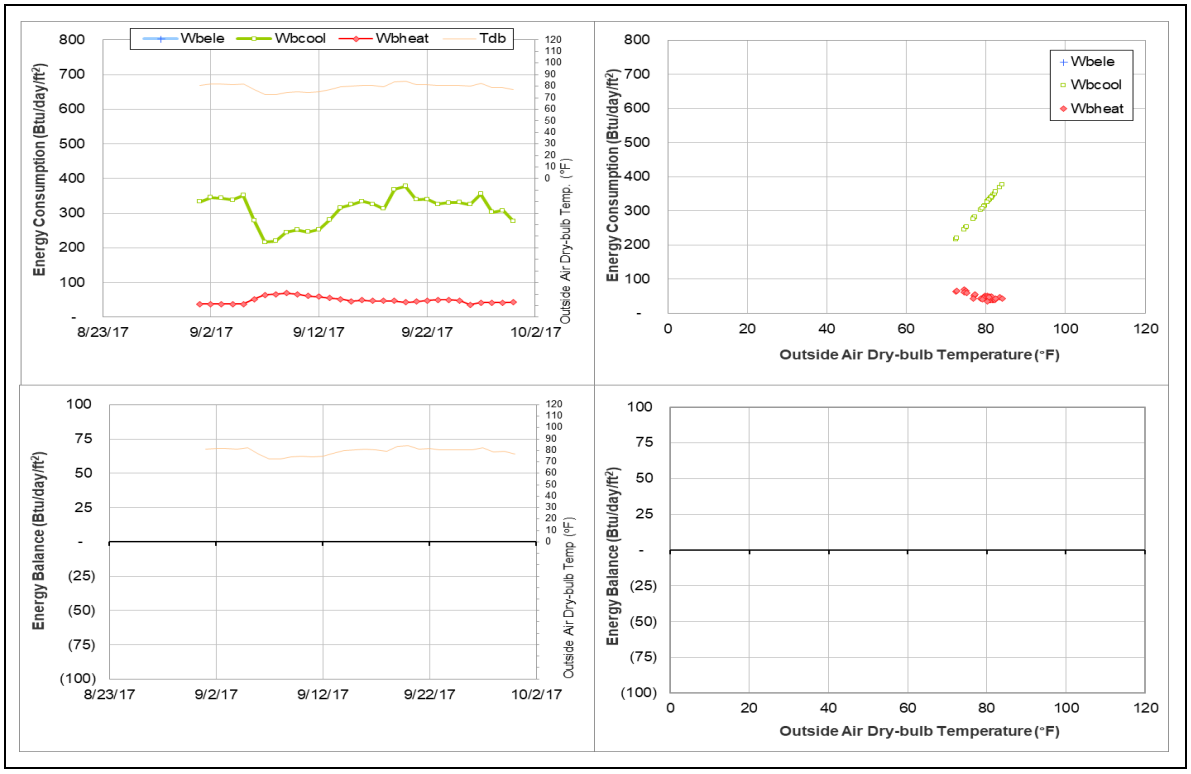
Explanatory Figure: 13 months energy balance plot with original data



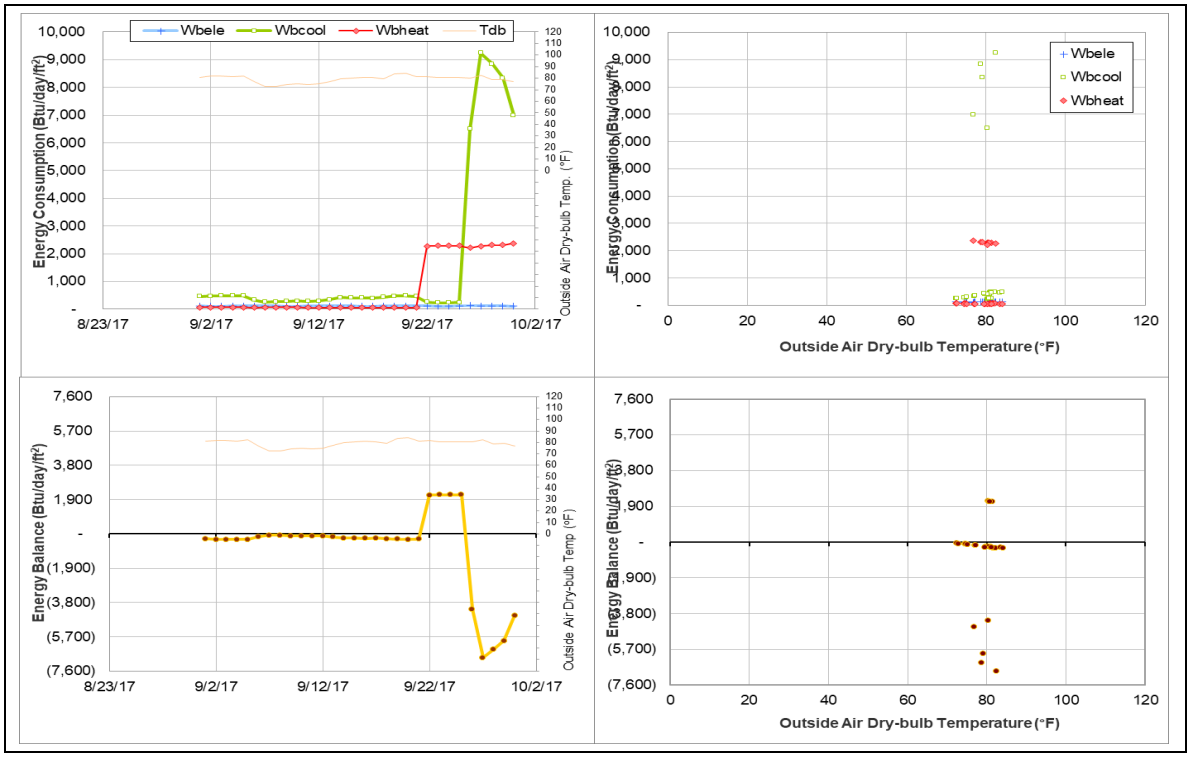
Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any. (TAMU Commons Hall Bldg. #440)



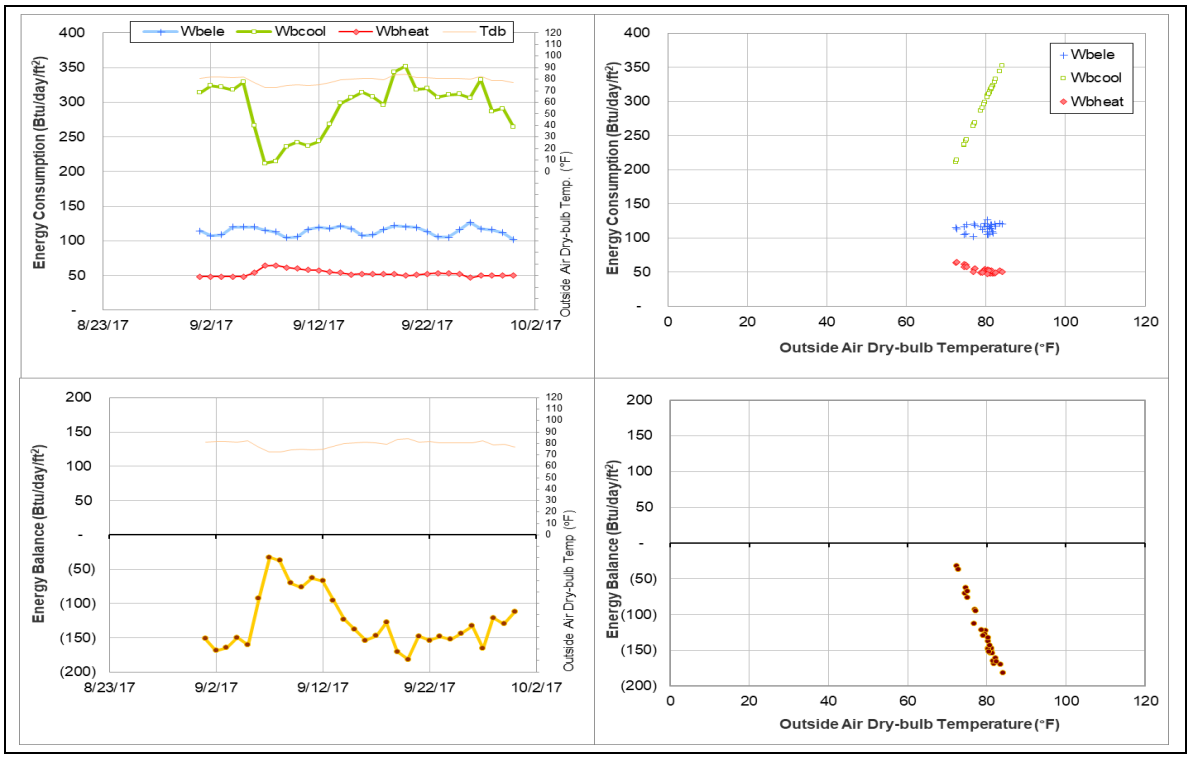
Energy balance plot using the estimated data for the month of analysis (TAMU Commons Hall Bldg. #440)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any. (TAMU Commons Hall Bldg. #440 & Krueger Residence Hall #441)



Energy balance plot using the estimated data for the month of analysis (TAMU Commons Hall Bldg. #440 & Krueger Residence Hall #441)



Krueger Residence Hall (TAMU Bldg #441)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002504	9	9/22/2017 – 9/30/2017	Model
HHW	002500	9	9/22/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	9/22/2017 – Ongoing
HHW	The metered values appear to be faulty.	9/22/2017 – Ongoing

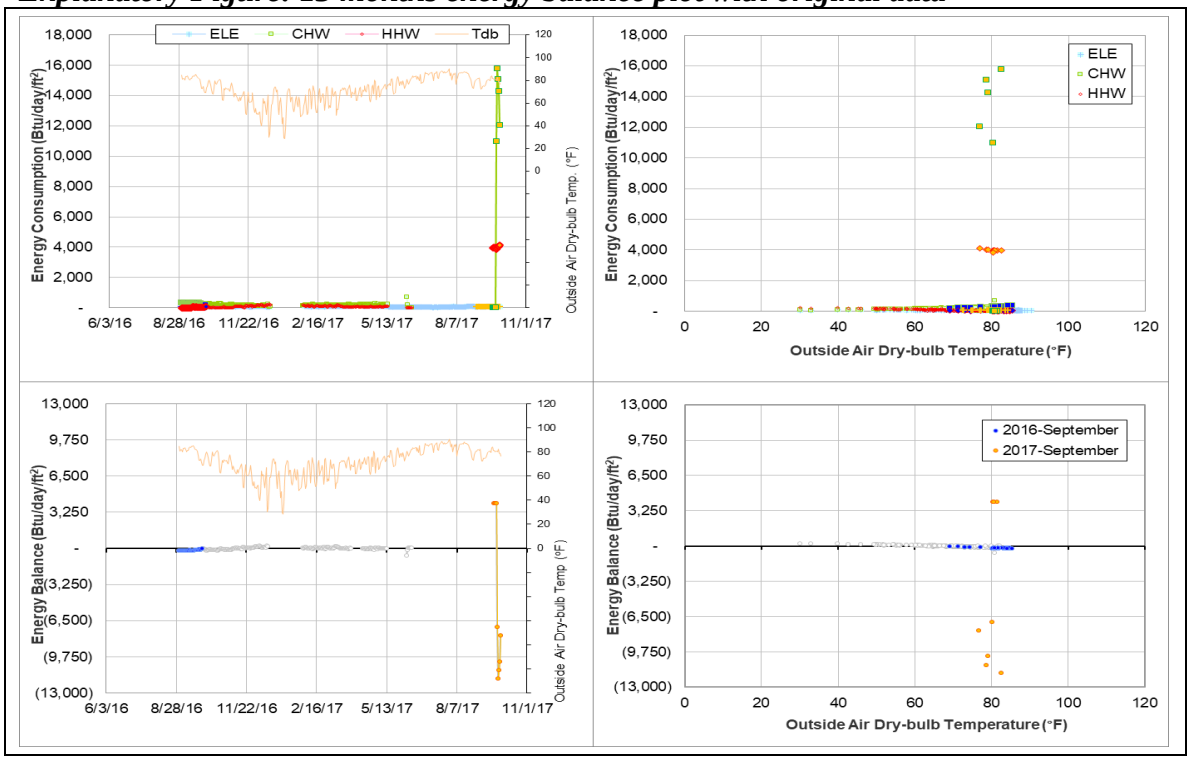
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002504	9/22/2017 – Ongoing	Energy calculation	Faulty
HHW	002500	9/22/2017 – Ongoing	Energy calculation	Faulty

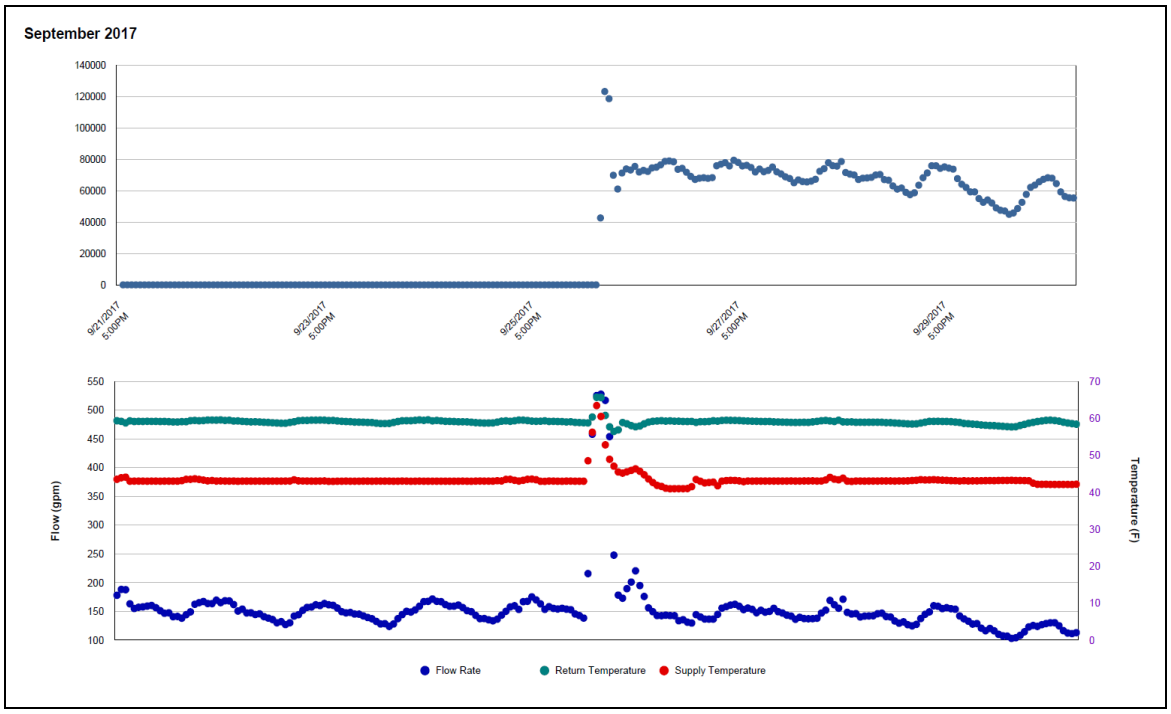
Quantitative descriptions and comments

Krueger Residence Hall underwent HVAC renovation during the summer of 2017. The CHW and HHW meter data returned on 9/22/2017, however the new consumption levels are unreasonably high. When looking at the flow rates and Delta-T's, the calculated energy at the meters are higher than expected. The CHW and HHW consumption was estimated by model using a baseline period prior to renovation.

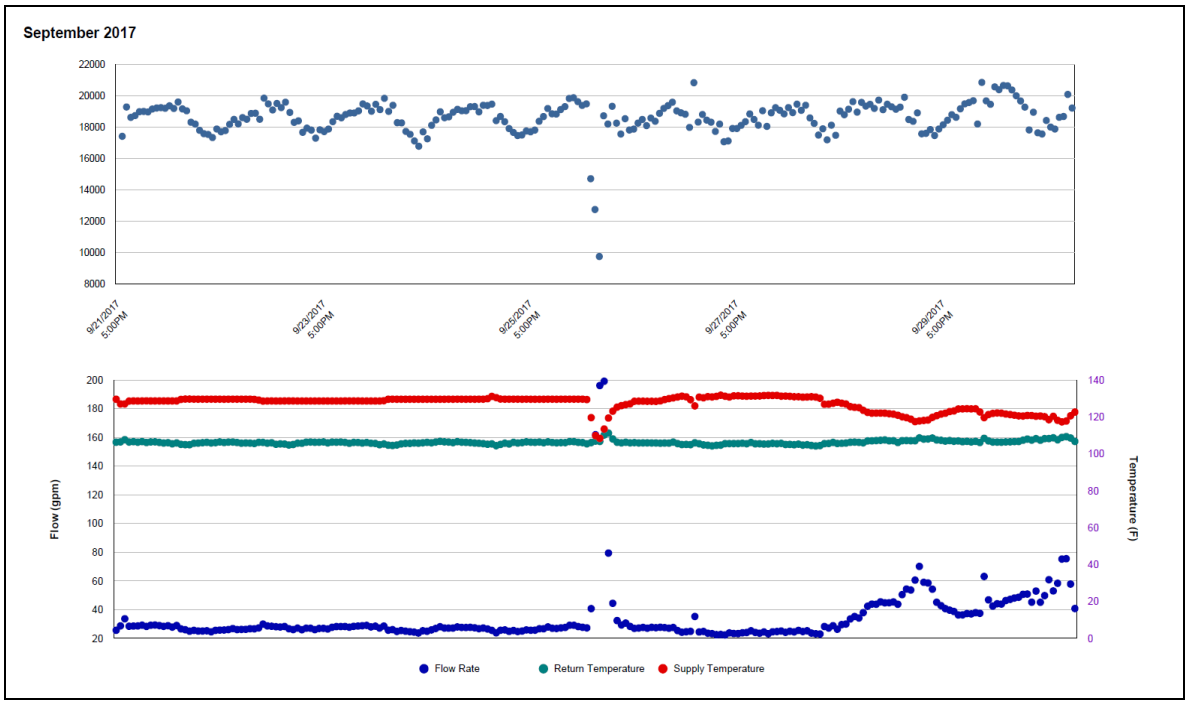
Explanatory Figure: 13 months energy balance plot with original data



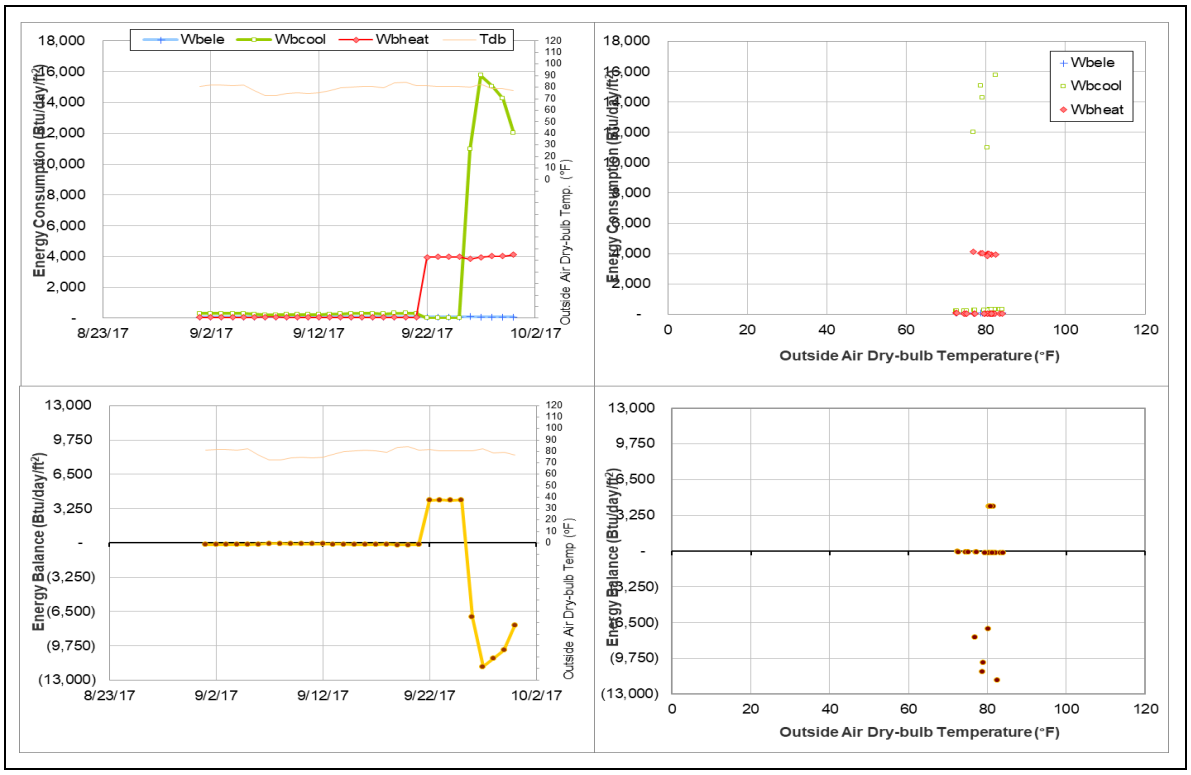
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during Sep 2017)



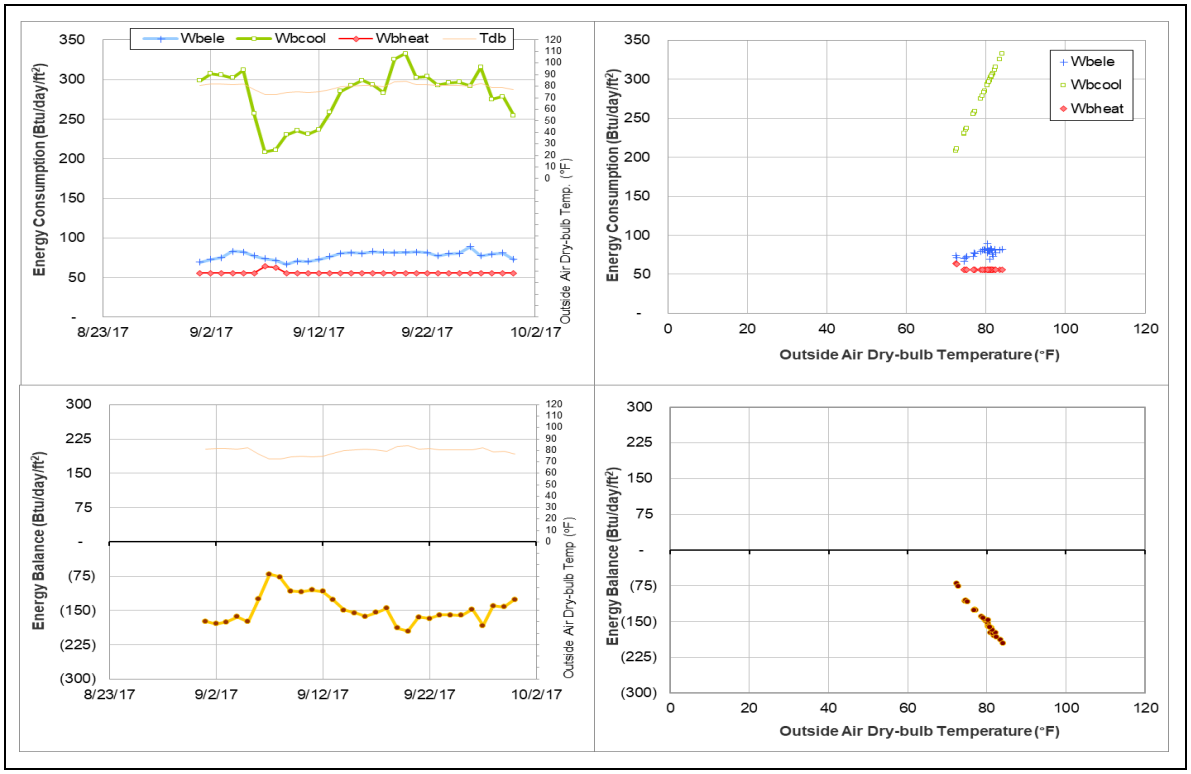
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during Sep 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Rudder Theatre Complex (TAMU Bldg # 446)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	002977	30	9/1/2017 – 9/30/2017	Model
ELE	002980	30	9/1/2017 – 9/30/2017	Model
CHW	004297	30	9/1/2017 – 9/30/2017	Model
HHW	004309	30	9/1/2017 – 9/30/2017	Model

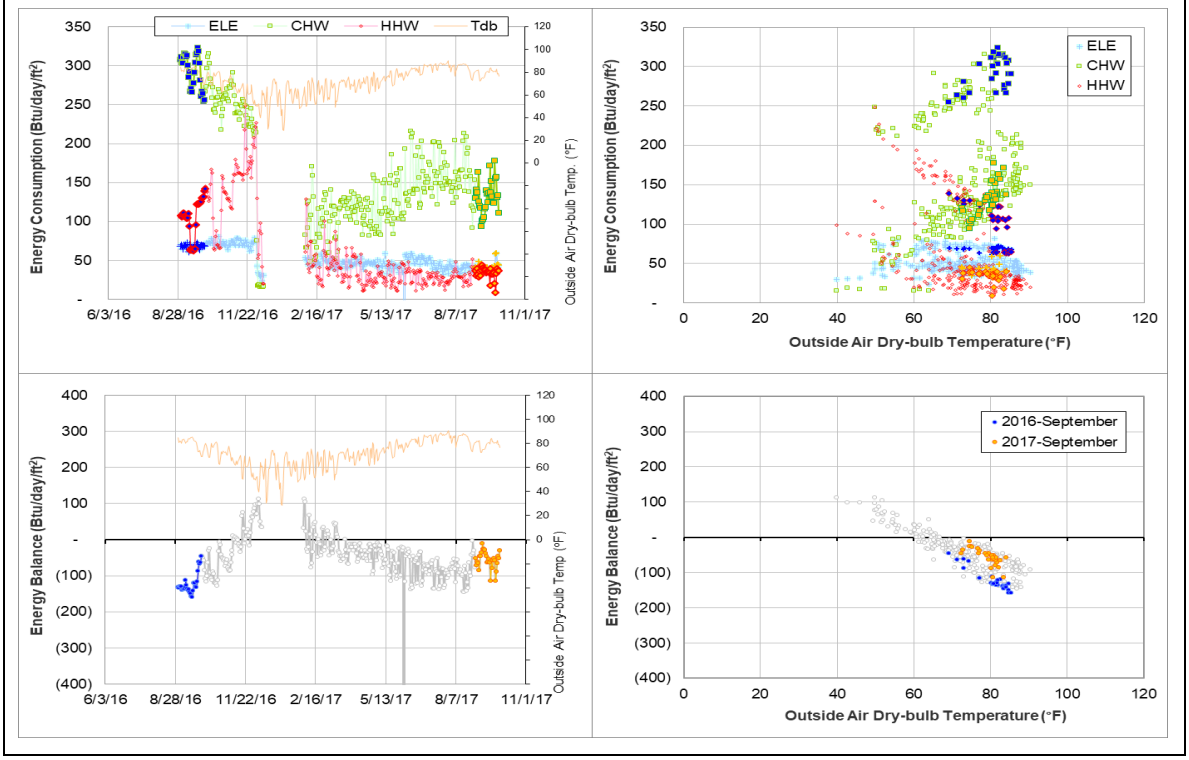
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption level has decreased suddenly.	2/1/2017 – Ongoing
ELE	The consumption level has decreased suddenly.	2/1/2017 – Ongoing
CHW	The consumption level has decreased suddenly.	2/1/2017 – Ongoing
HHW	The consumption level has decreased suddenly.	2/1/2017 – Ongoing

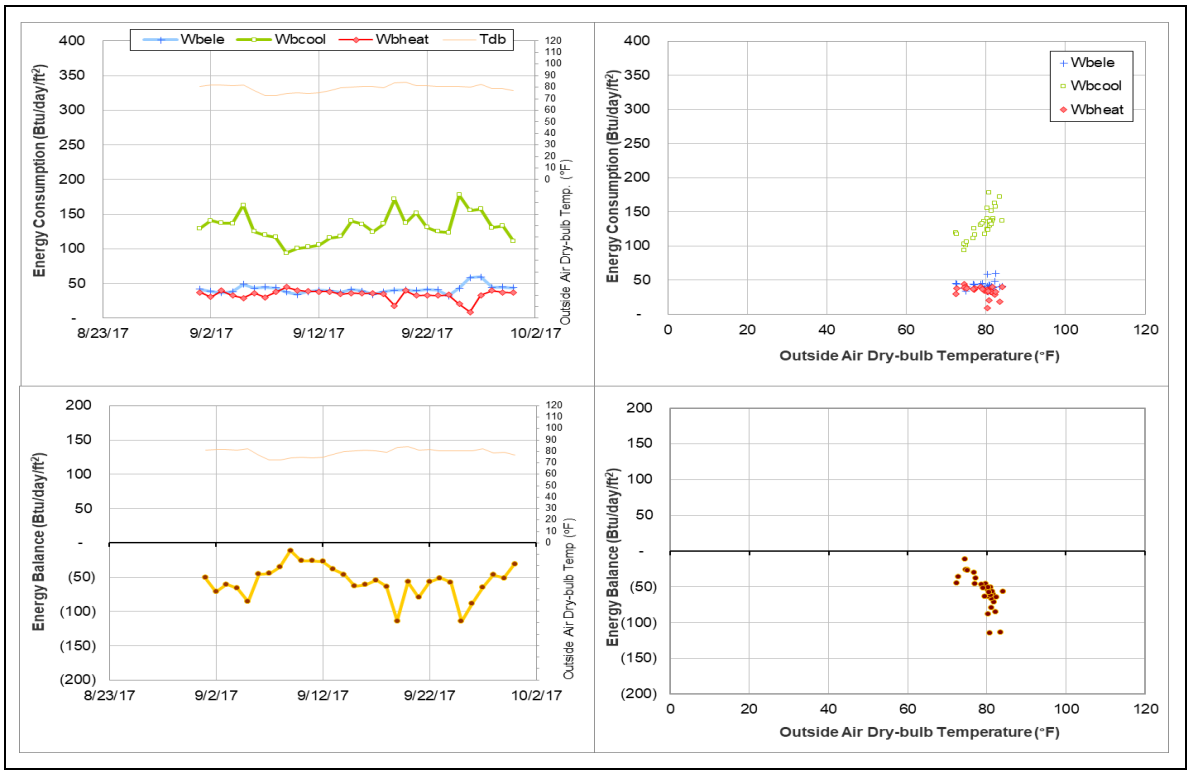
Quantitative descriptions and comments

ELE, CHW, and HHW consumption dropped during the winter break of last year (2016-2017) and again during the winter break in 2015-2016. This drop is not suspected to be a meter malfunction since a decrease would be expected during break periods and that the data from 2015-2016 winter suggests that the consumption went back to the normal level around 1/25/2016. However, the data following 2016-2017 winter has not yet returned to the normal level. The energy balance of this building does not show separate patterns for these two levels. The whole month is estimated using a model for ELE, CHW, and HHW.

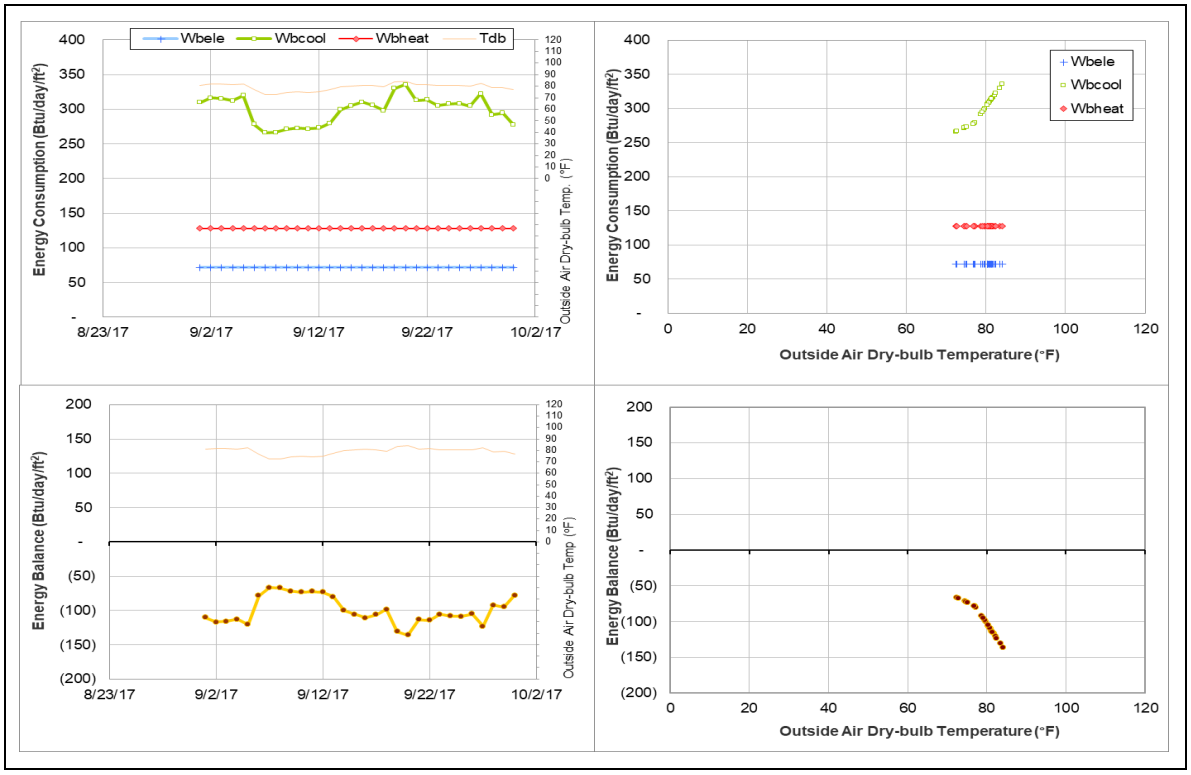
Explanatory Figure: 13 months energy balance plot with original data



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Adams Band Hall (TAMU Bldg #448)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002555	20	9/1/2017 – 9/17/2017, 9/28/2017 – 9/30/2017	Model
HHW	002566	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is lower than the level during the past year.	7/24/2017 – Ongoing
HHW	The consumption level has decreased suddenly.	7/24/2017 – Ongoing

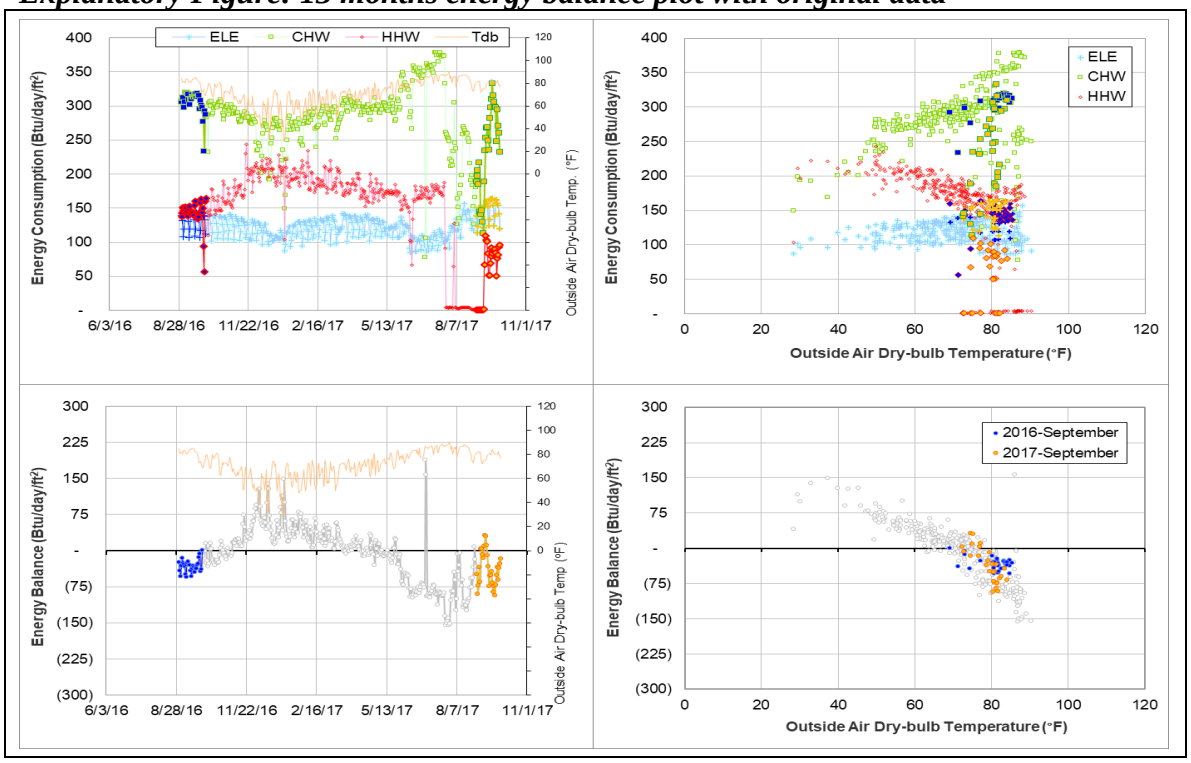
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002555	7/24/2017 – 9/17/2017, 9/28/2017 – Ongoing	Delta-T	Decreased
HHW	002566	7/24/2017 – 9/11/2017	Flow rate	Decreased to zero
		9/11/2017 – 9/18/2017	Delta-T	Decreased
		9/18/2017 – Ongoing	Flow rate	Decreased

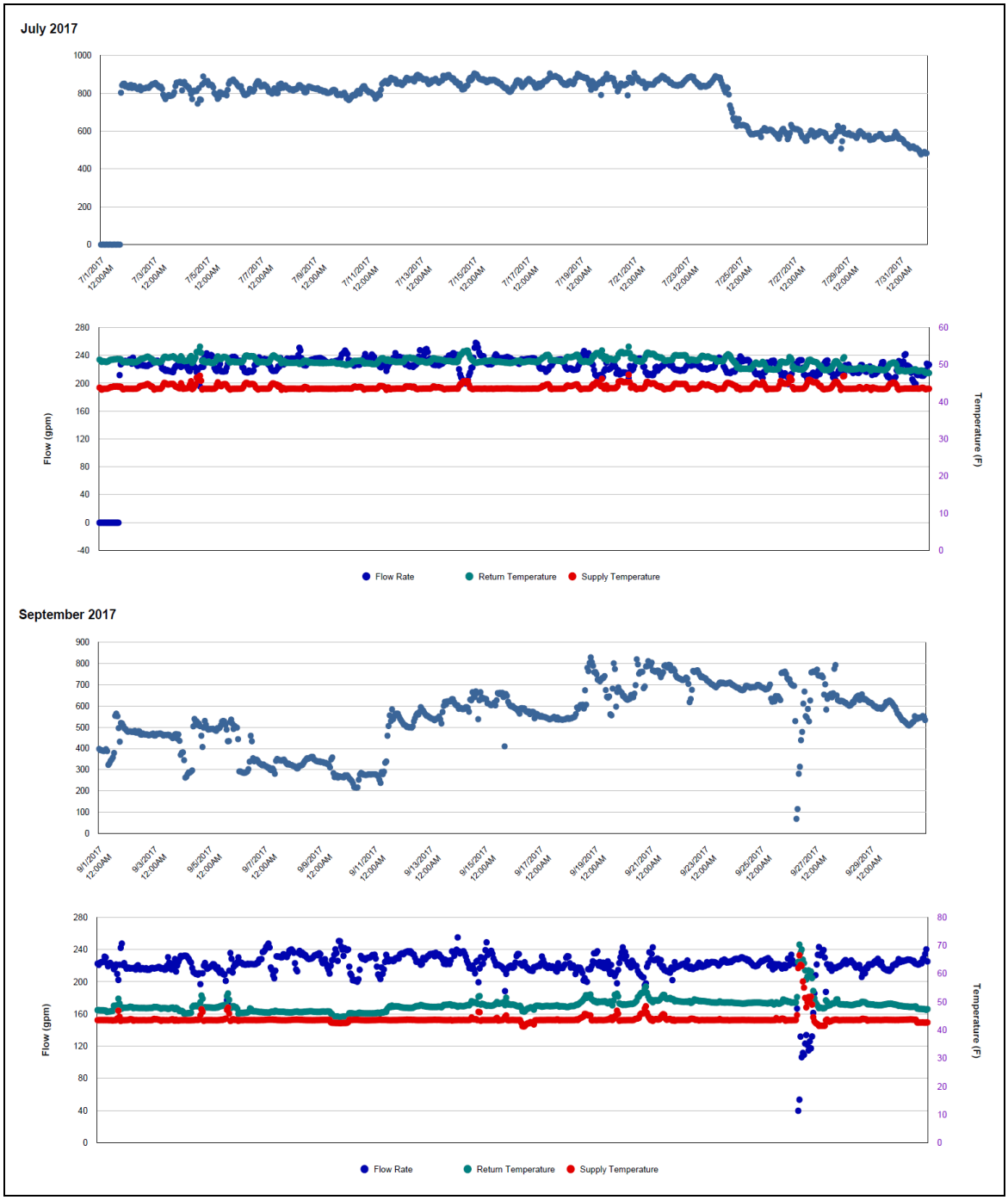
Quantitative descriptions and comments

The CHW consumption pattern for decreases up to 50% in July 2017 when compared to July 2016. Starting on 7/24/2017, the return temperature decreased resulting in a scattered consumption pattern with a level up to 180 Btu/day/ft^2 lower than July 2016 The CHW consumption was estimated by model. The HHW consumption decreased starting 7/24/2017 and continues. From 7/24/2017 to 9/11/2017 the HHW flow rate appears to decrease to zero or near zero values and then returns on 9/12/2017. While the flow rate increased, the Delta-T decreased. Then on 9/18/2017, the flow rate decreased again and the Delta-T increased. The HHW consumption was estimated by model for this period.

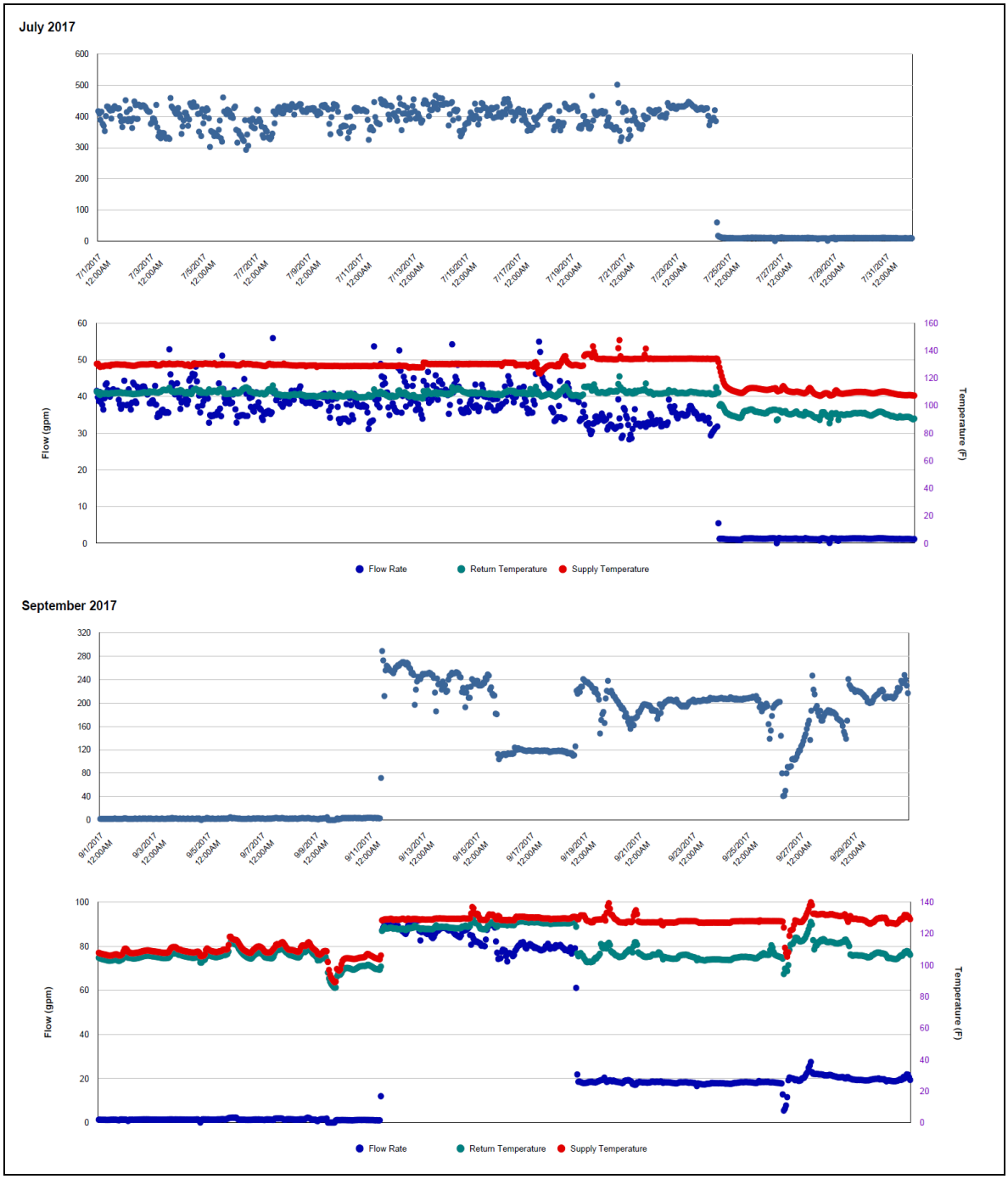
Explanatory Figure: 13 months energy balance plot with original data



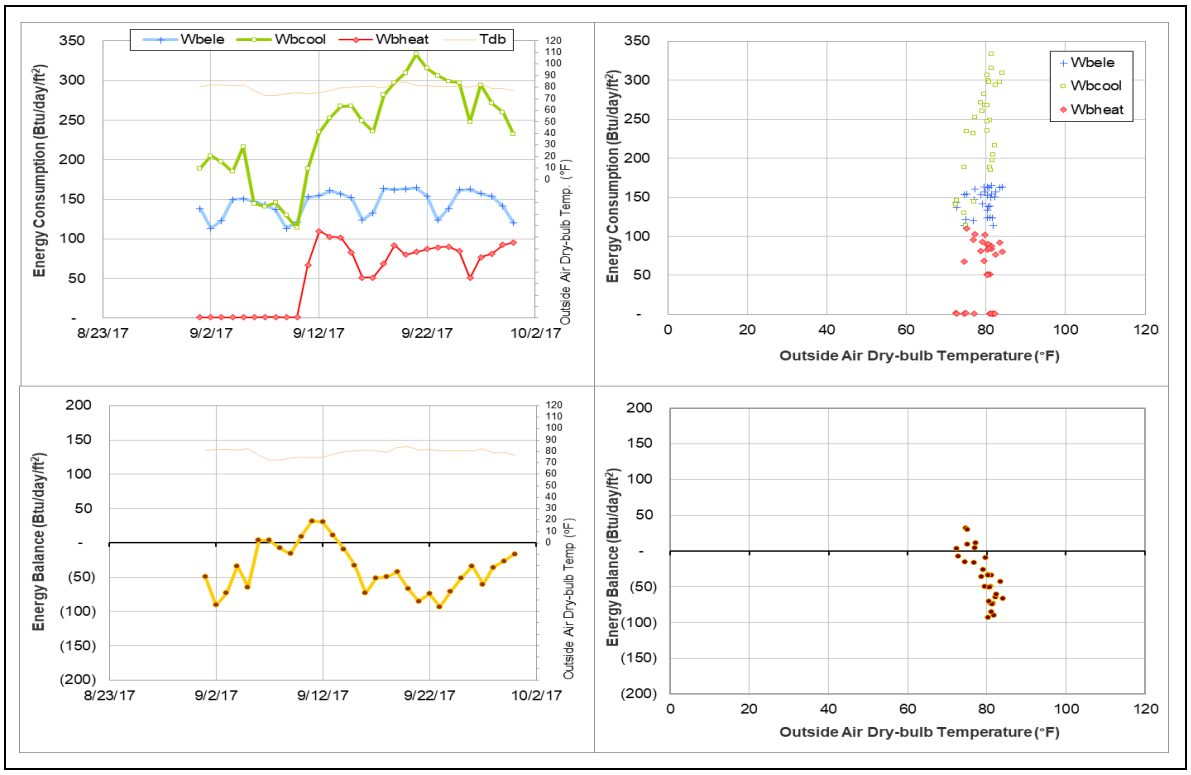
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during July 2017 (top) and September 2017 (bottom))



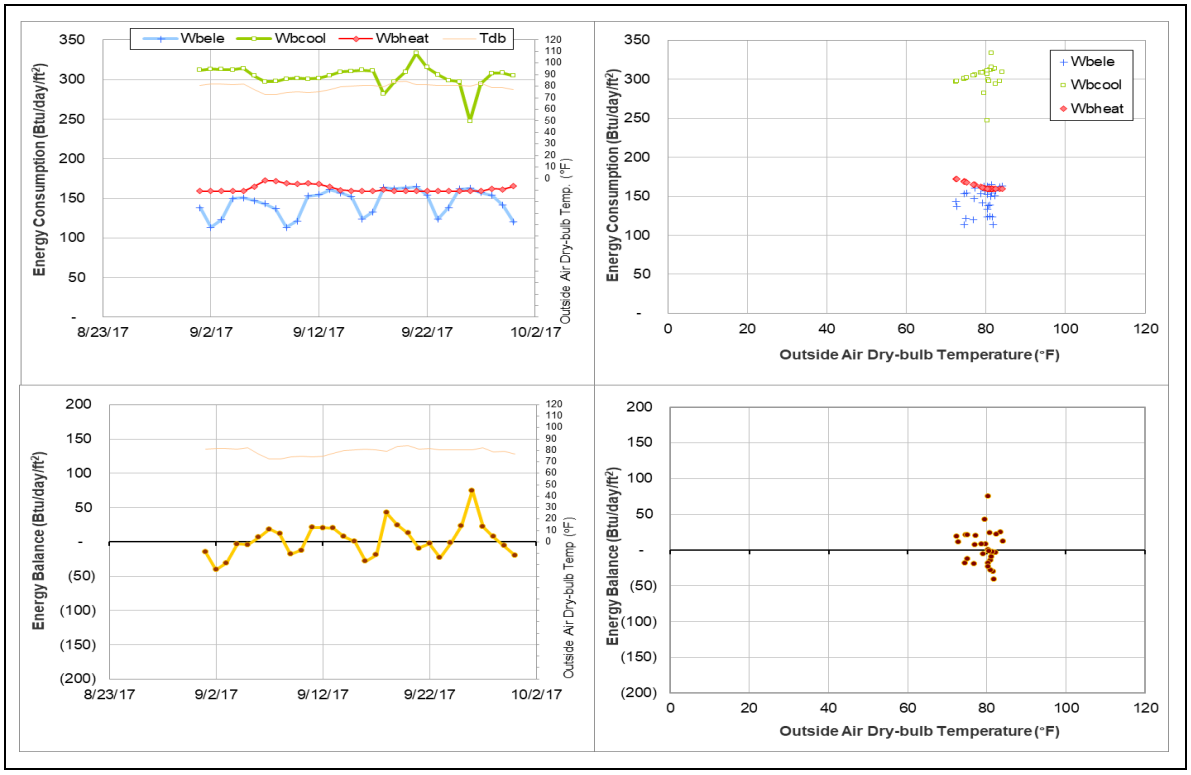
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during July 2017 (top) and September 2017 (bottom))



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Biological Sciences Building - East (TAMU Bldg #467)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003851	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	8/6/2016 – Ongoing

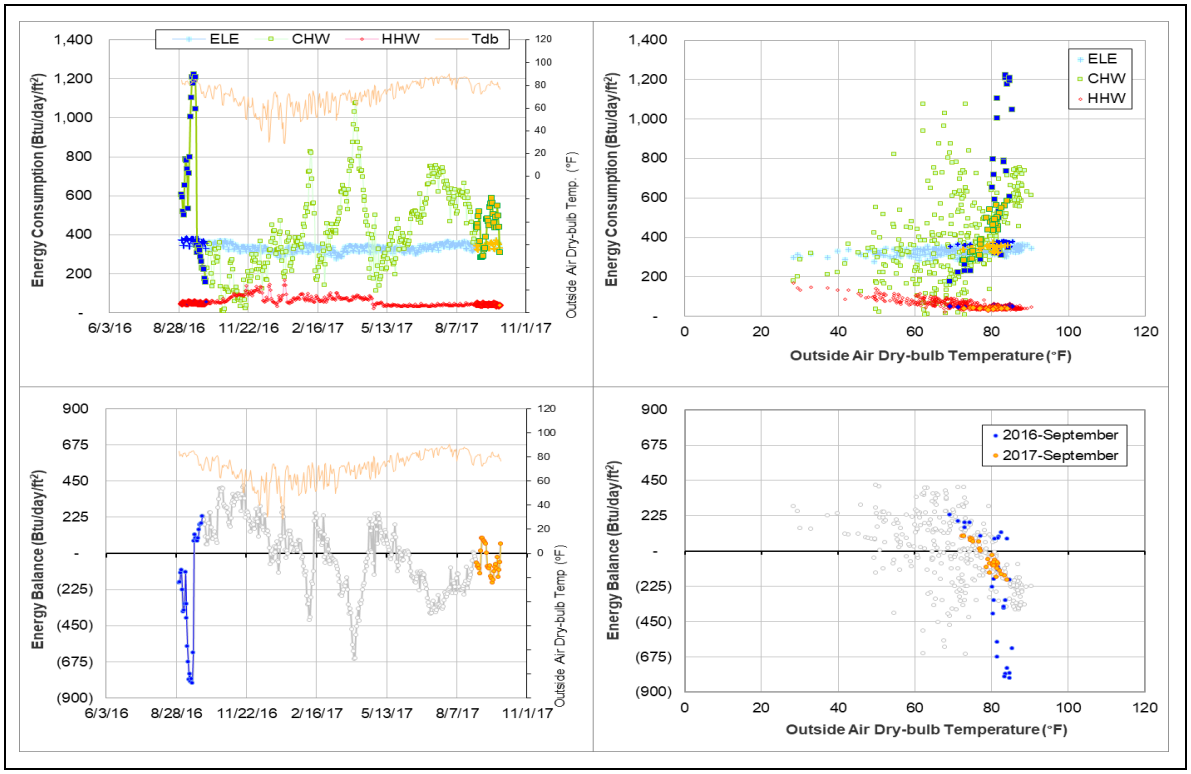
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	003851	8/6/2016 – Ongoing	Supply Temperature	Faulty

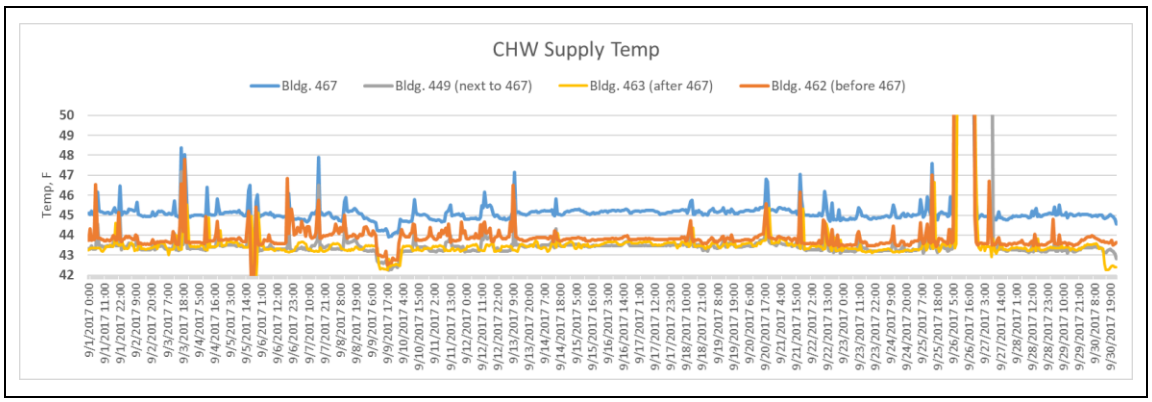
Quantitative descriptions and comments

The CHW supply temp readings for this building started to decrease on 8/6/2016 while all adjacent buildings have stable supply temperature at around 42°F. The supply temperature had a period of obviously erroneous values of 20°F during 9/10 – 9/20/2016, and then increased to 45°F range. The explanatory figure below shows the supply temperature for Bldg. #467 and the surrounding Bldgs. #462, #449, and #463. The temperature sensor for Bldg. #467 shows to be almost two degrees higher than its neighboring buildings. The CHW consumption was estimated for this period by model.

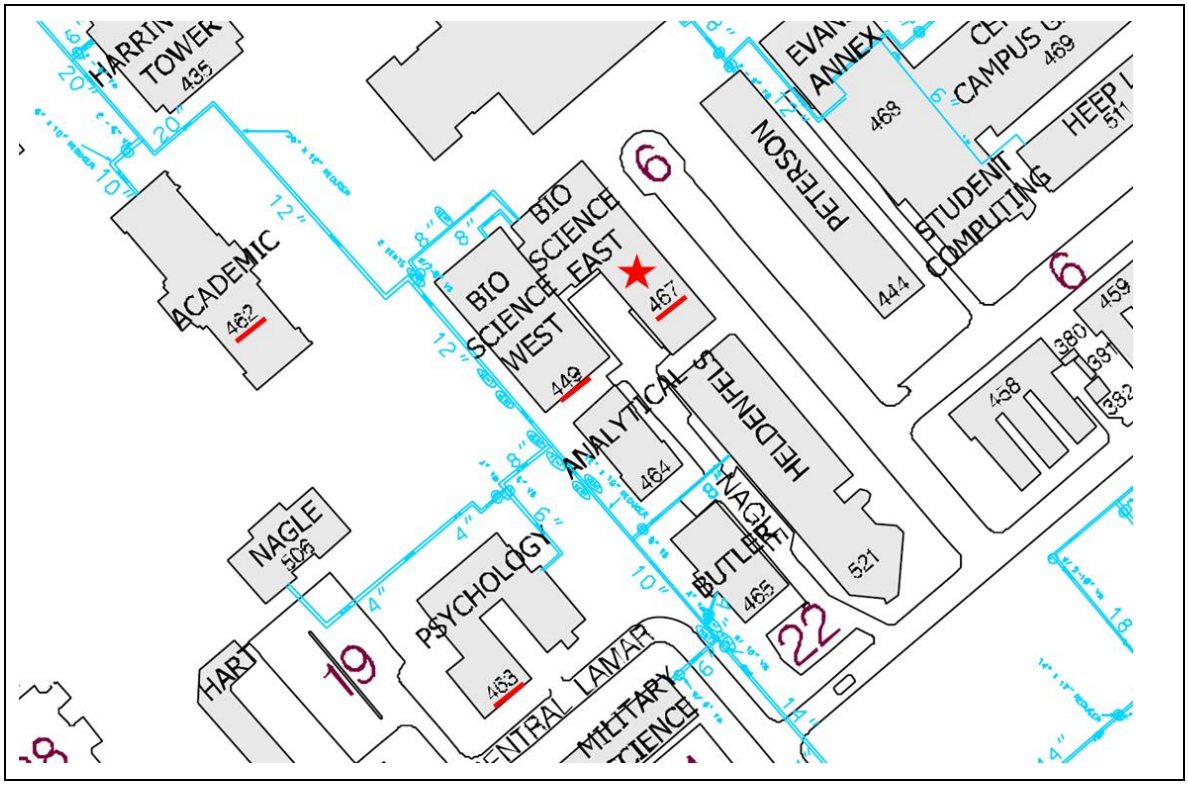
Explanatory Figure: 13 months energy balance plot with original data



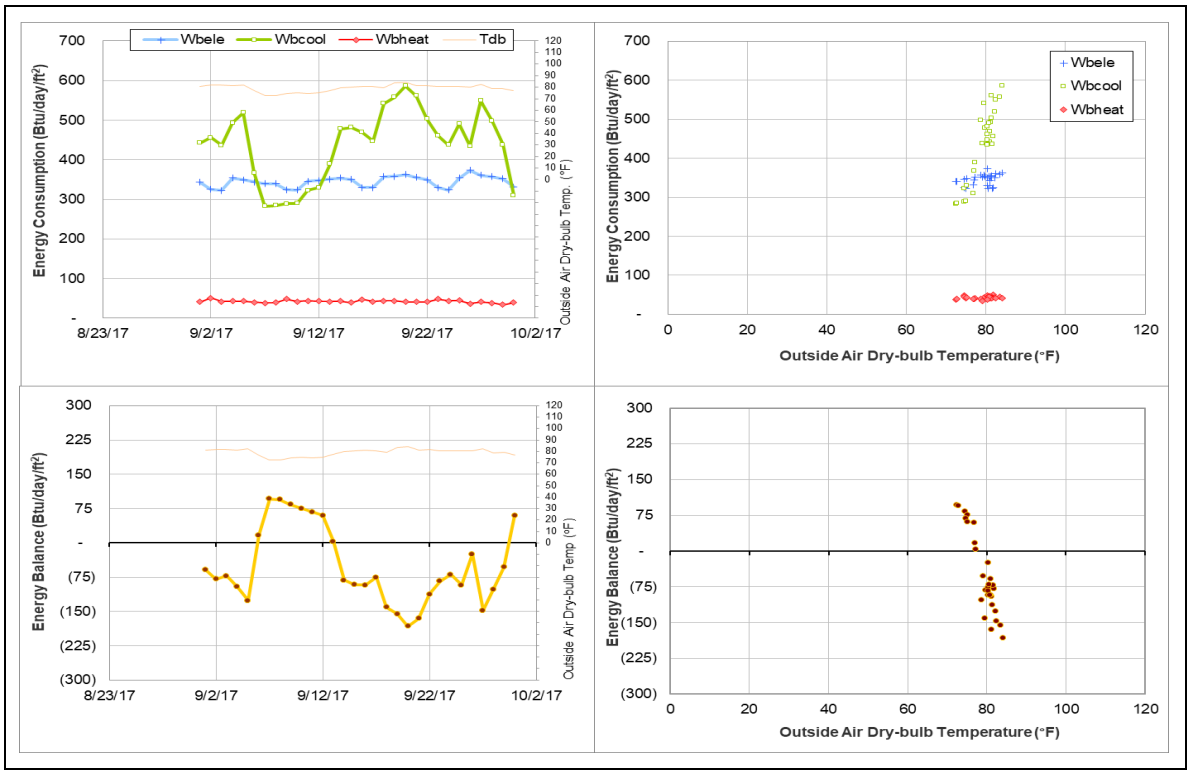
Explanatory Figure: Time series plot of hourly average CHW supply temperature for Bldgs. #467 Biological Sciences East, #462 Academic, #449 Biological Sciences West, and #463 Psychology. (September 2017)



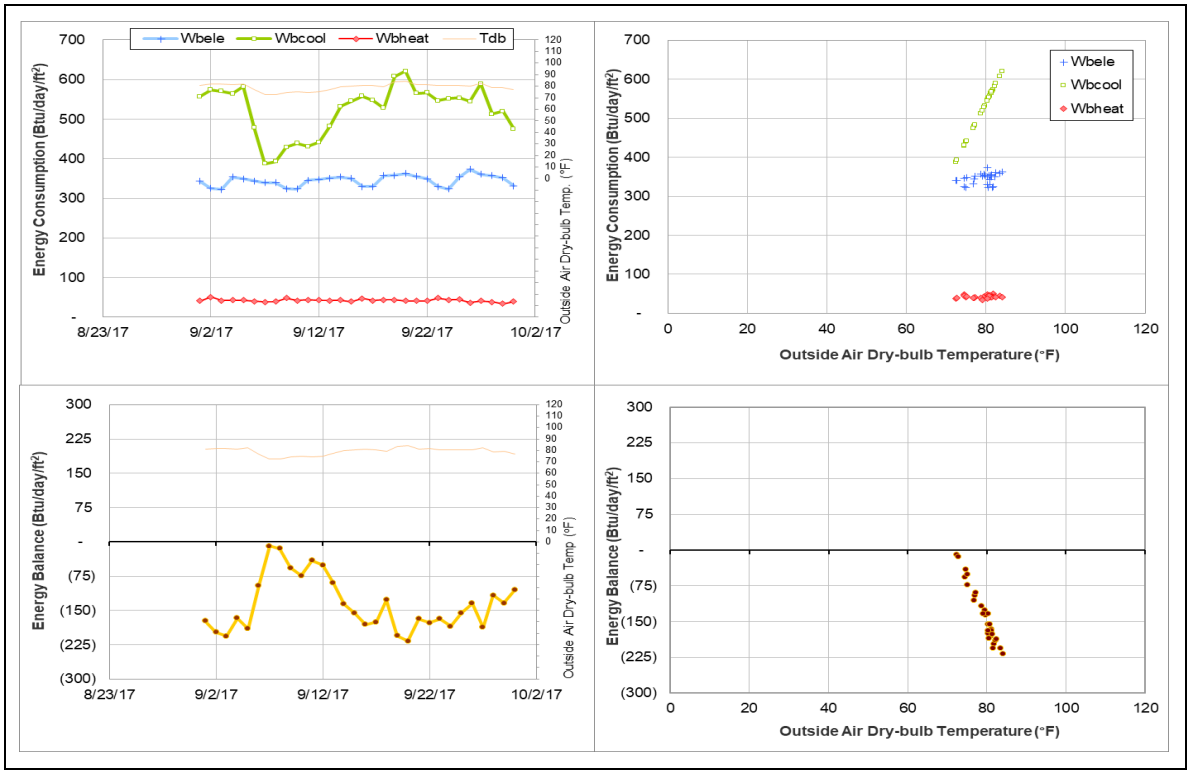
Explanatory Figure: CHW distribution with Bldgs. #467 Biological Sciences East, #462 Academic, #449 Biological Sciences West, and #463 Psychology highlighted.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Evans Library (TAMU Bldg #468)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	005303	3	9/1/2017 – 9/3/2017	Model
HHW	003712	26	9/5/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW #005303	The consumption level has increased suddenly.	8/8/2017 – 9/3/2017
HHW #003712	The consumption level has increased suddenly.	9/5/2017 – Ongoing

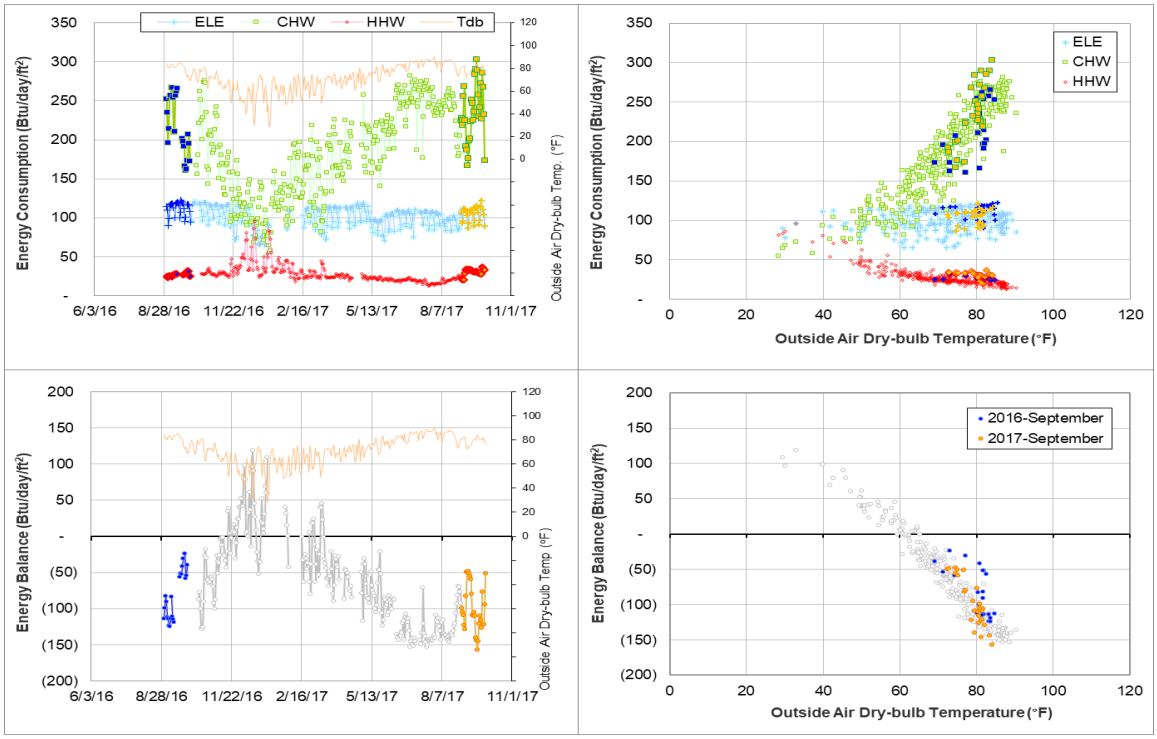
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	005303	8/8/2017 – 9/3/2017	Flow rate	Increased
HHW	003712	9/5/2017 – Ongoing	Flow rate	Increased

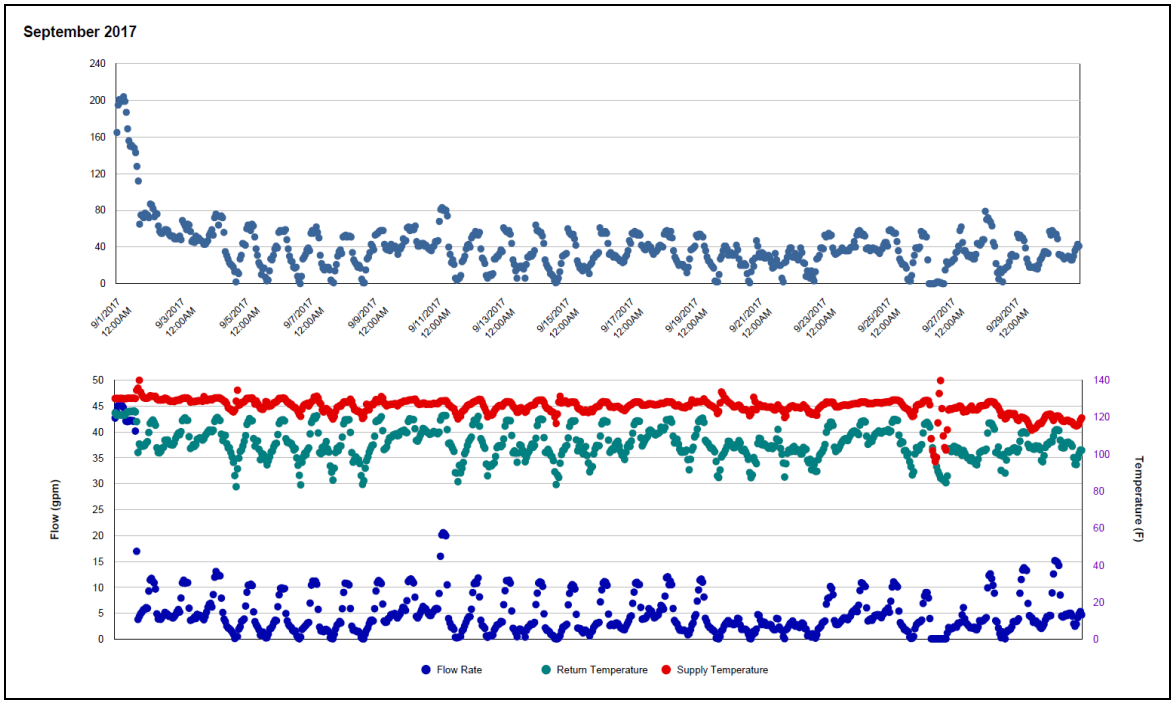
Quantitative descriptions and comments

Evans Library has five HHW meters. On 8/8/2017, HHW meter #005303 experienced an increase in flow rate causing the consumed energy to be up to four times larger than the normal pattern (an overall increase of 3-4 mmBtu/day). HHW meter #003712 experienced an increase in flow rate starting 9/5/2017 causing up to three times larger than the normal pattern (an overall increase of 8 mmBtu/day). The HHW consumption for both meters were estimated by model.

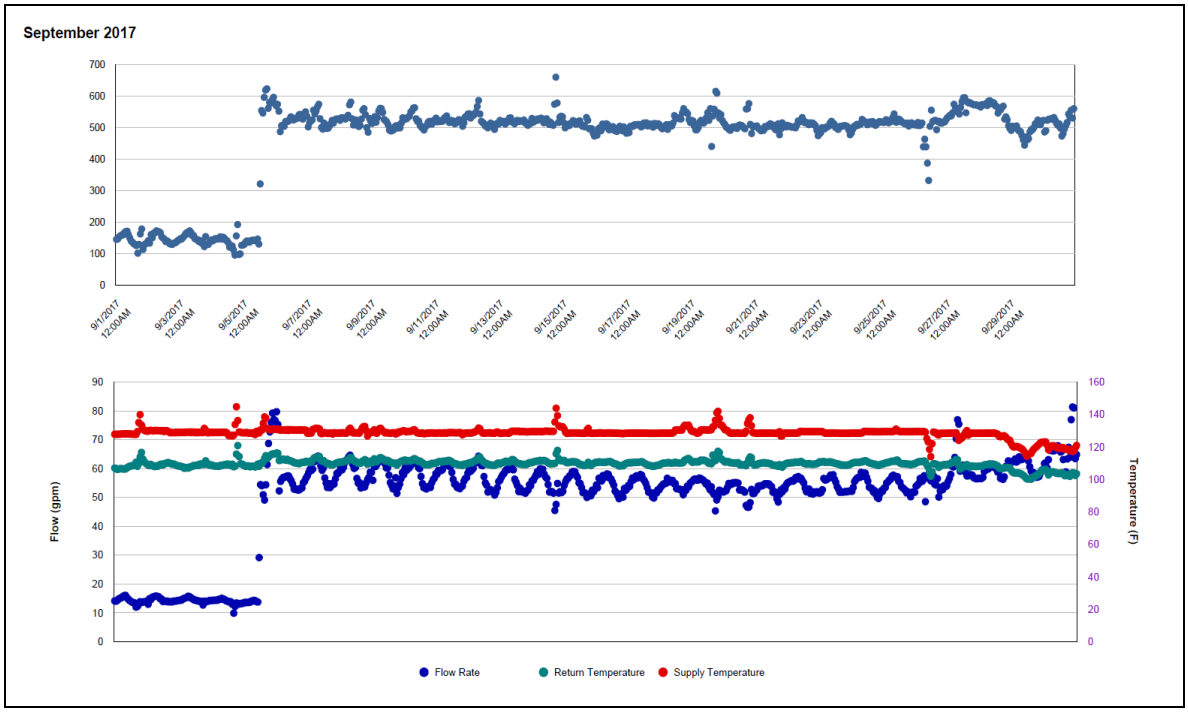
Explanatory Figure: 13 months energy balance plot with original data



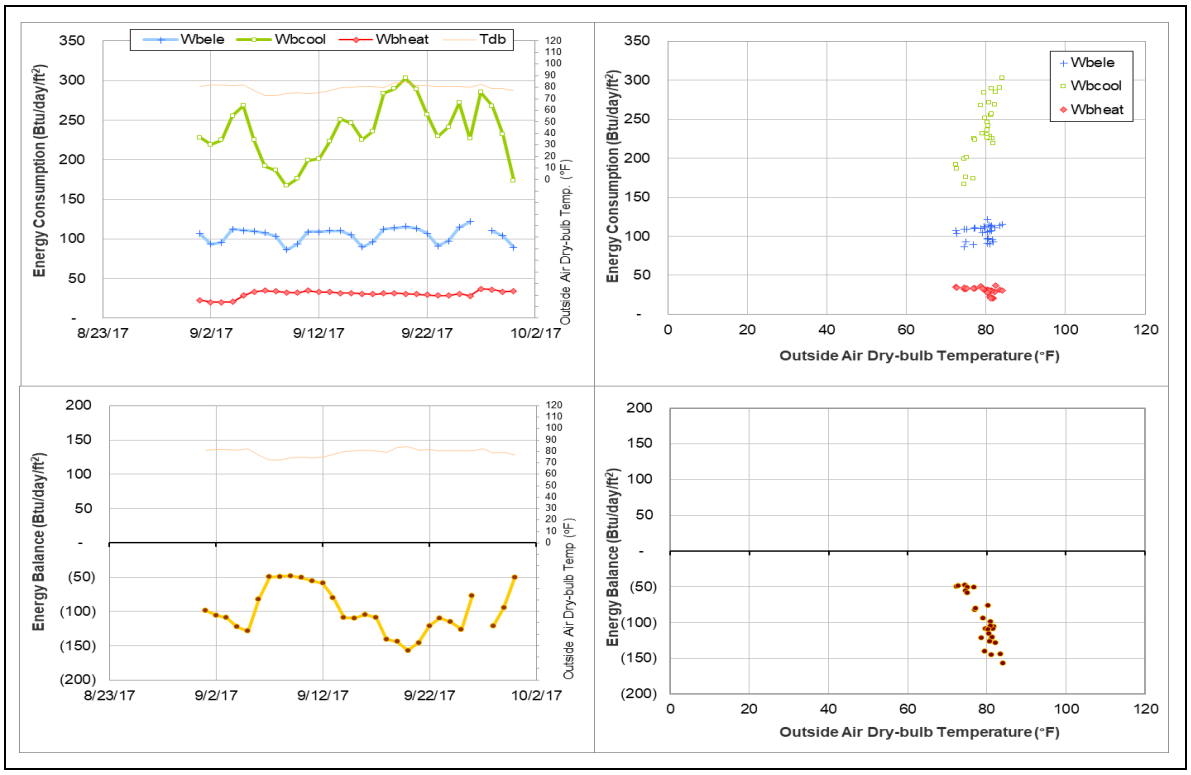
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW #005303 meter during September 2017)



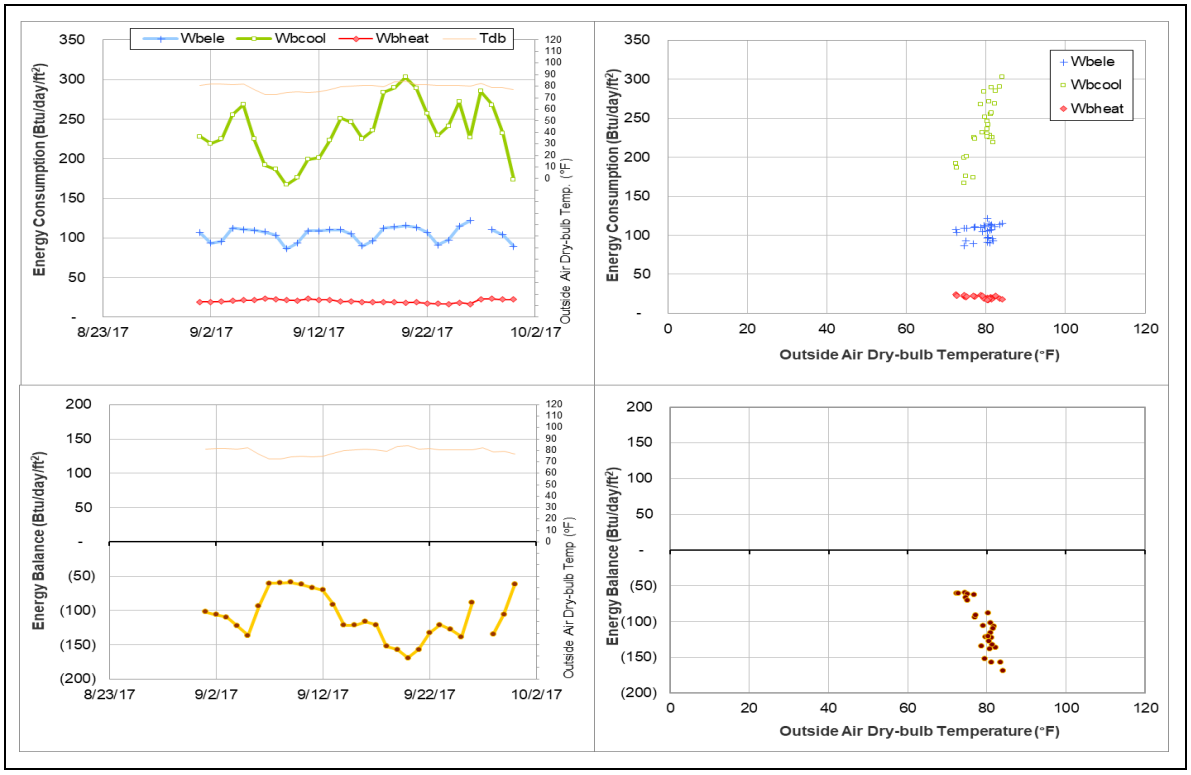
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter #003712 during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



YMCA Building - West (TAMU Bldg #474)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	007526	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	7/26/2017 – Ongoing

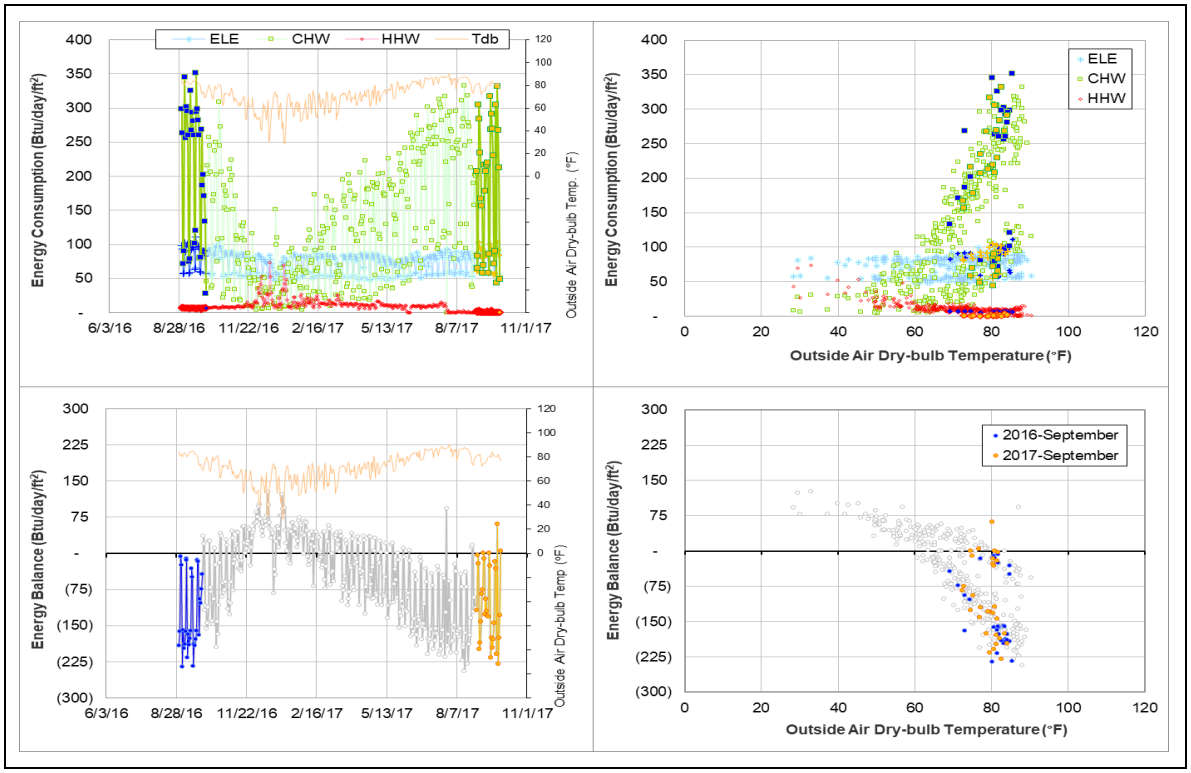
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	007526	7/27/2017 – Ongoing	Delta-T	Decreased to near zero and negative

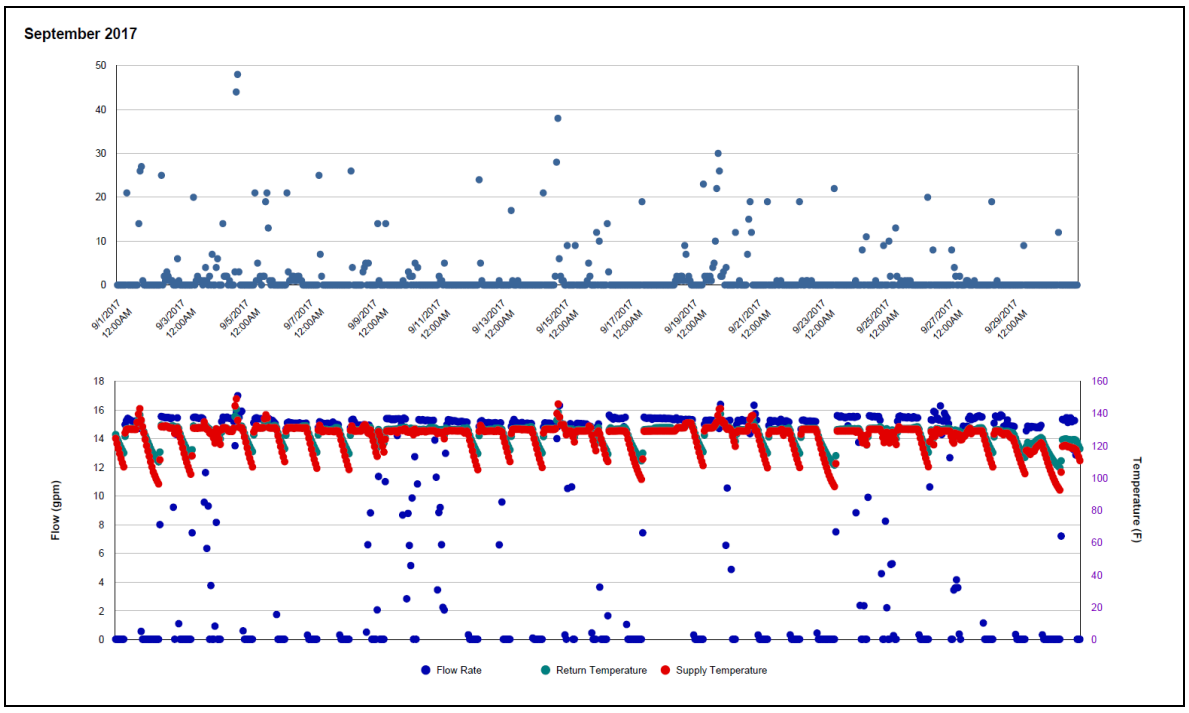
Quantitative descriptions and comments

The HHW consumption pattern is zero or near zero for the month. The flow rate is at a similar range as previous months, but the Delta-T appears to be zero or near zero with occasionally turning negative since end of July 2017. The HHW consumption for the month was estimated by model.

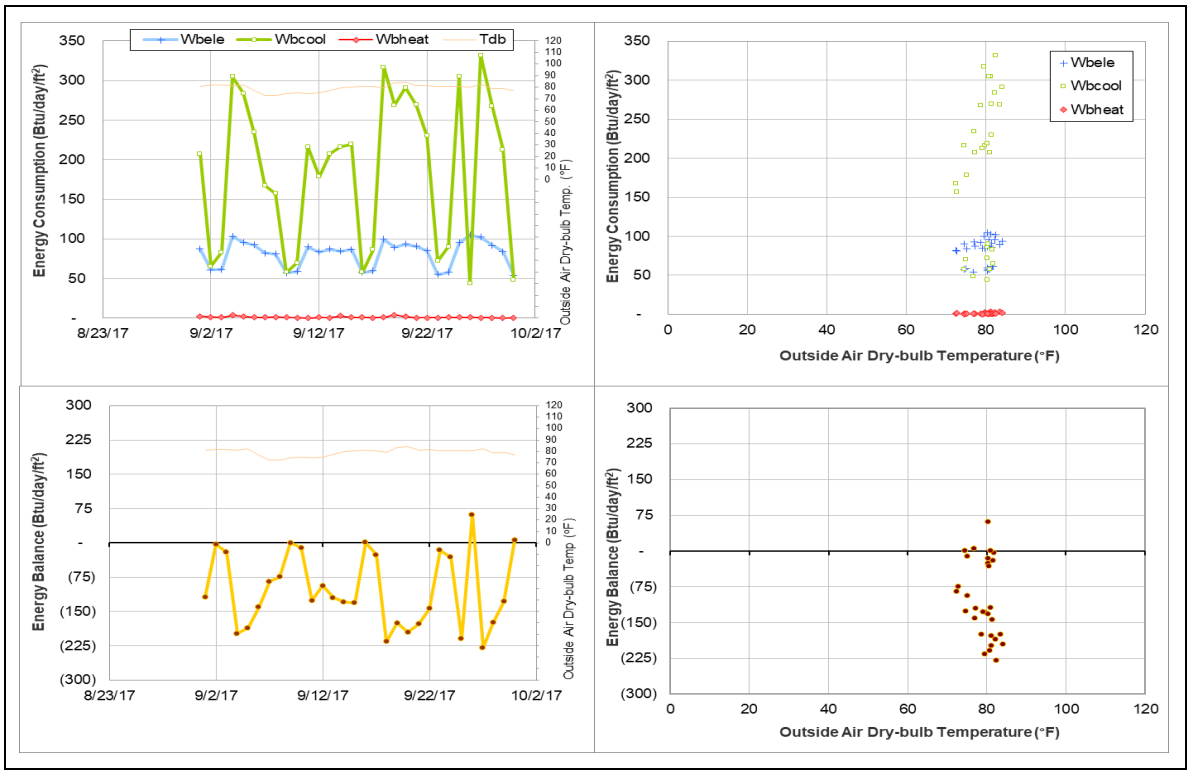
Explanatory Figure: 13 months energy balance plot with original data



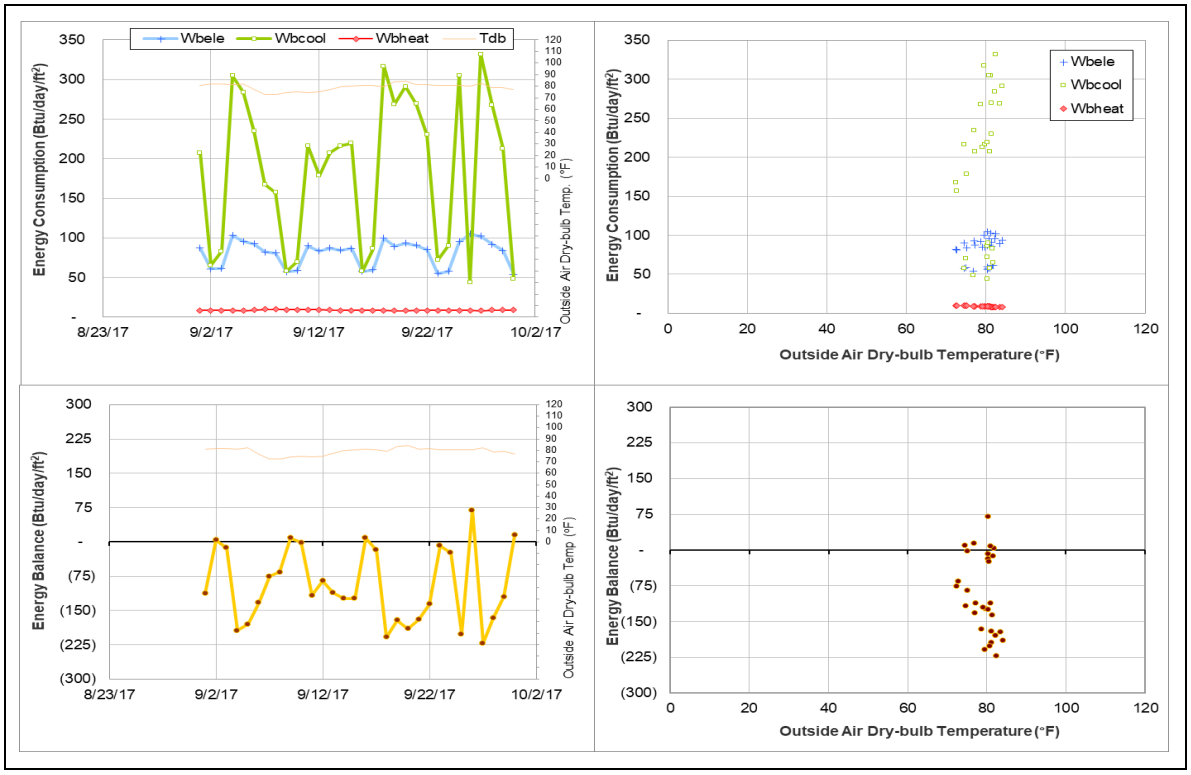
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Anthropology Building (TAMU Bldg #477)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	003668	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	8/24/2017 – Ongoing

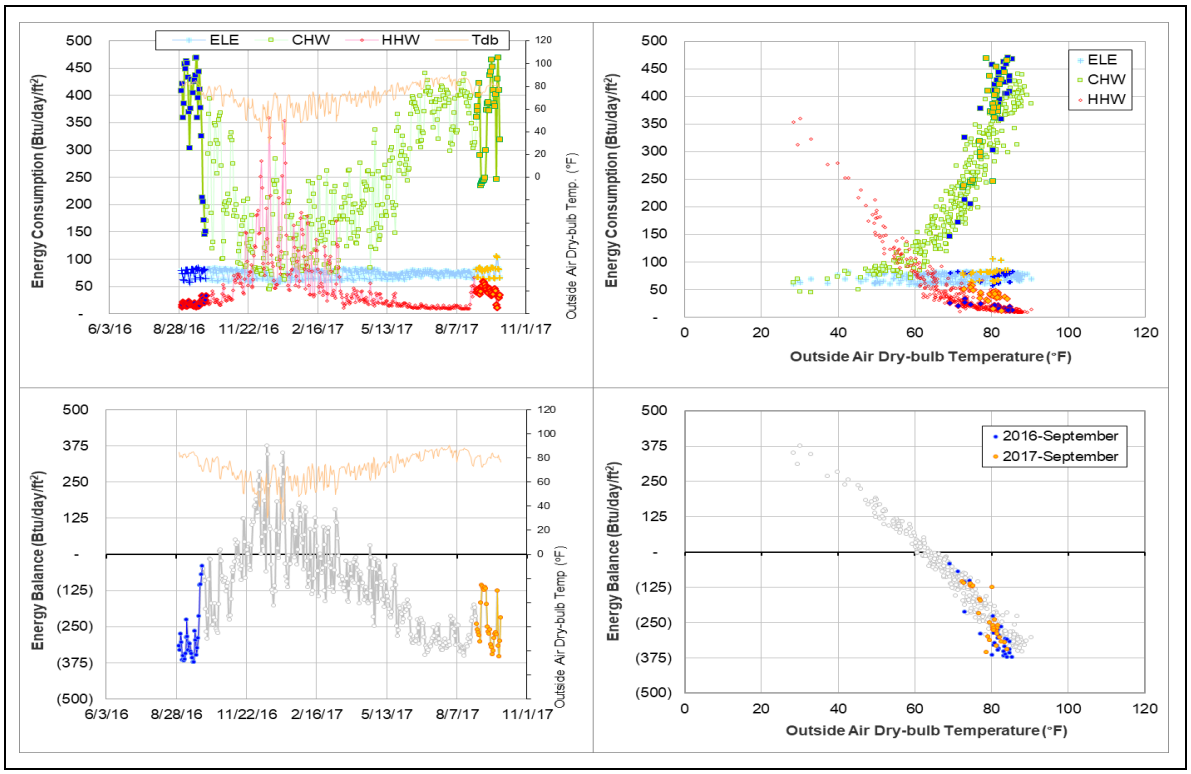
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	003668	8/24/2017 – Ongoing	Delta-T	Increased

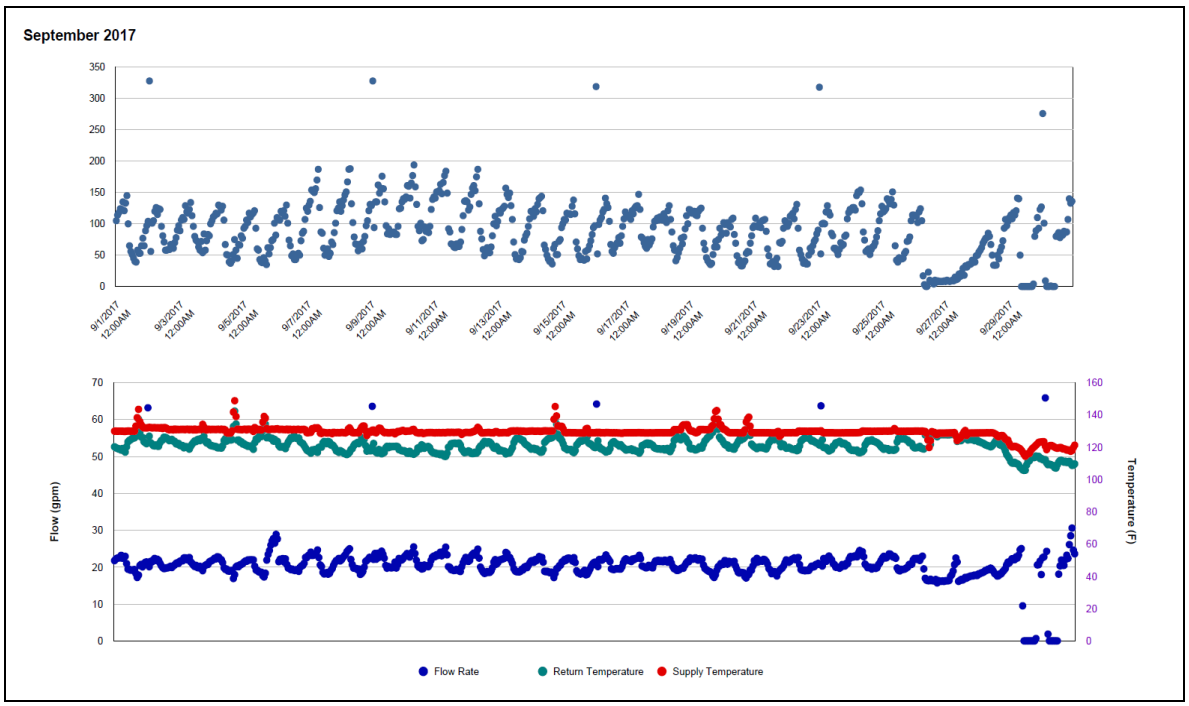
Quantitative descriptions and comments

On 8/24/2017, the HHW Delta-T increased causing an increase in HHW consumption by 20 Btu/day/ft^2 (about 60%). The HHW consumption was estimated by model.

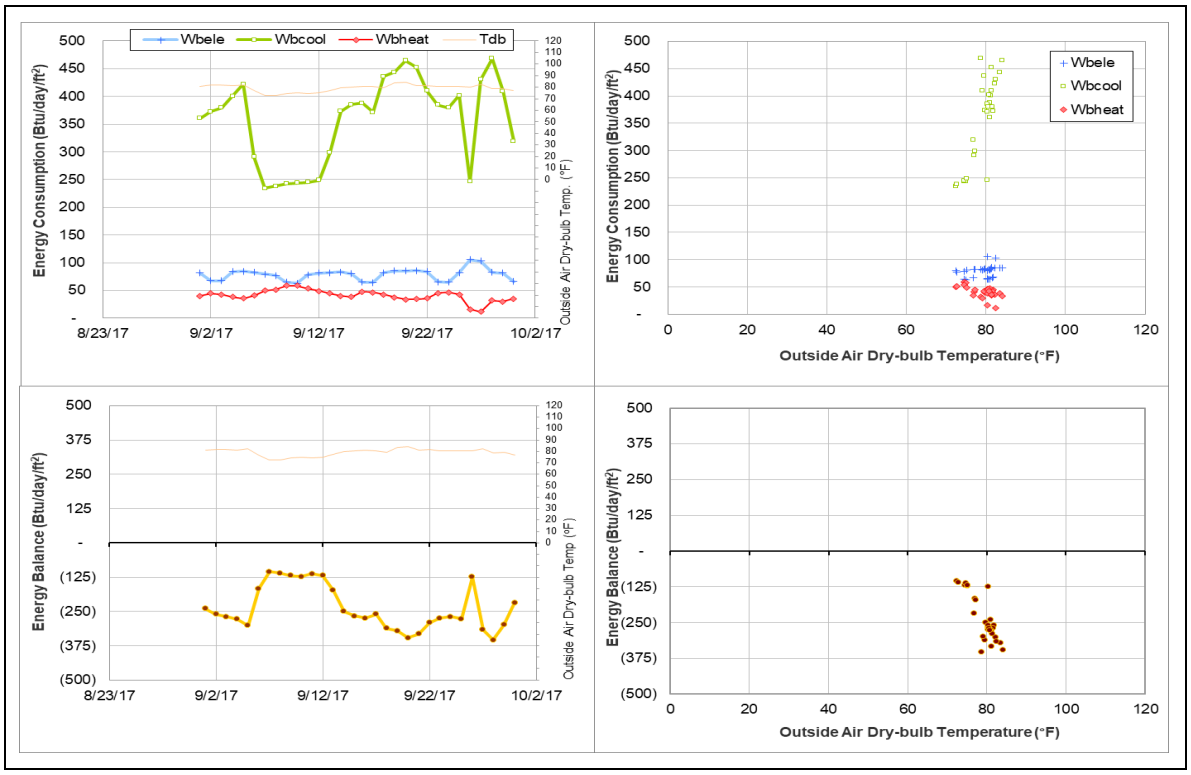
Explanatory Figure: 13 months energy balance plot with original data



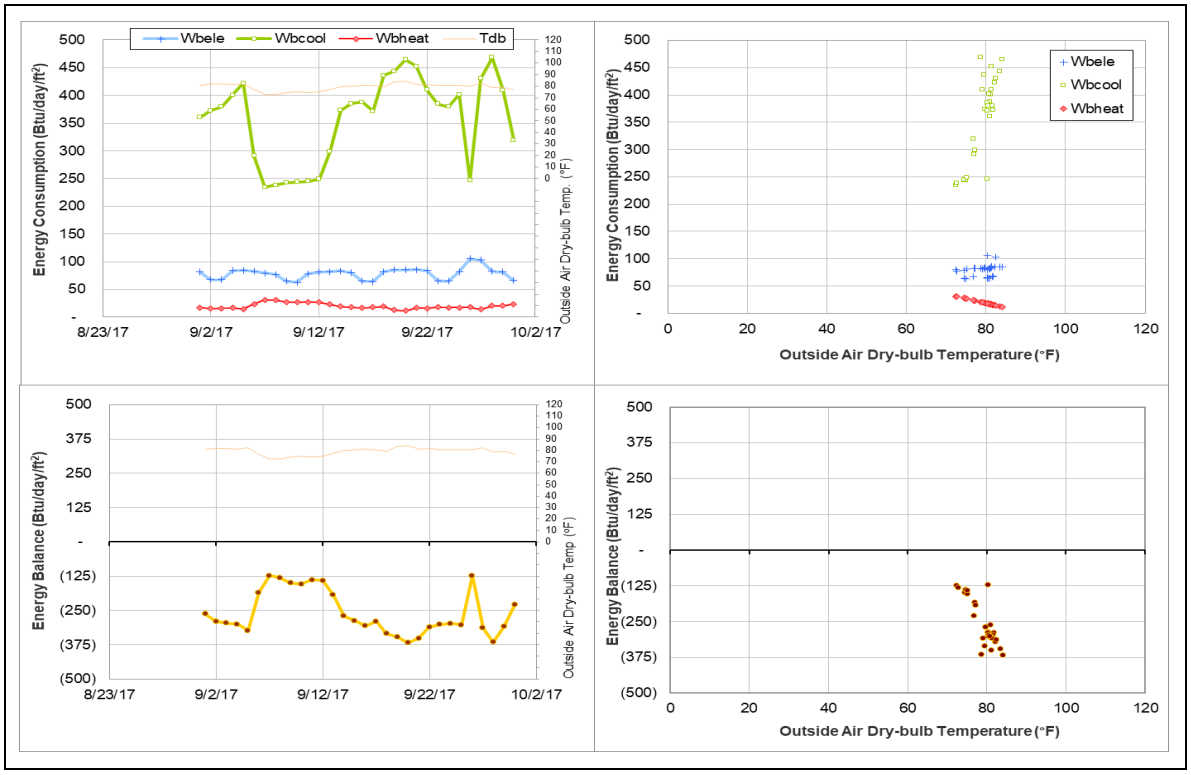
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Halbouty Geosciences Building (TAMU Bldg # 490)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	006896	23	9/1/2017 – 9/6/2017, 9/14/2017 – 9/29/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level has increased suddenly.	9/1/2017 – 9/6/2017, 9/14/2017 – 9/29/2017

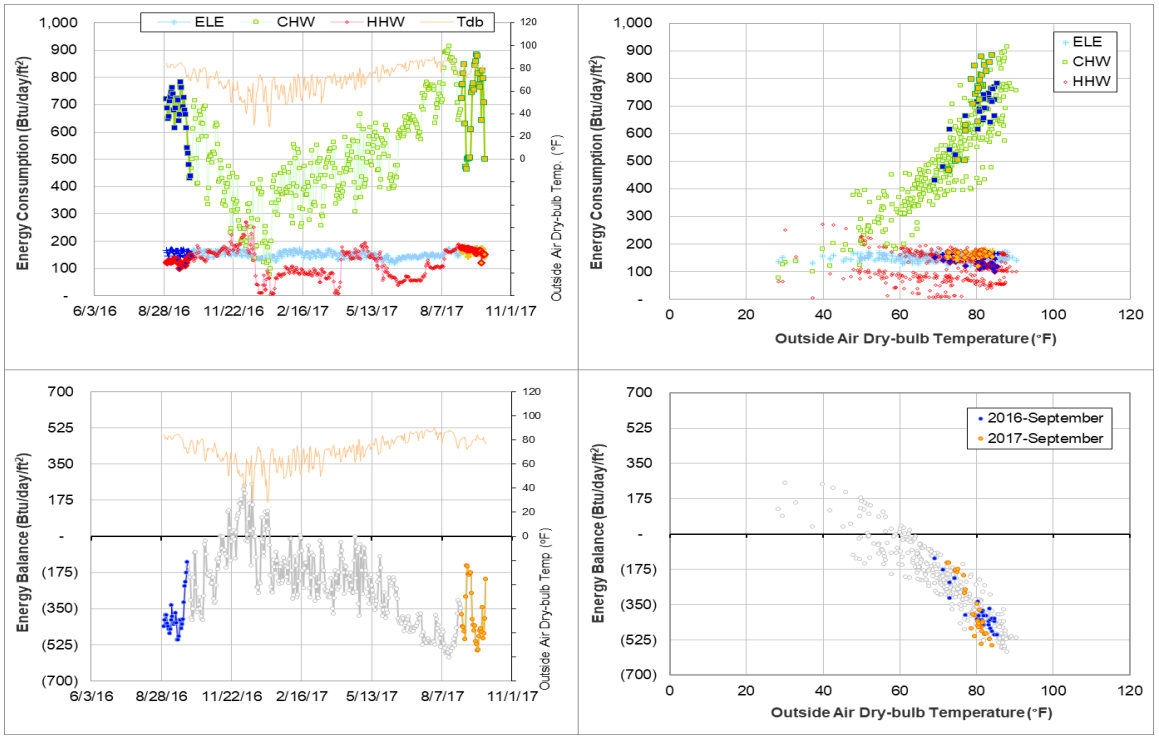
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	006896	9/1/2017 – 9/6/2017, 9/14/2017 – 9/29/2017	Flow rate	Increased

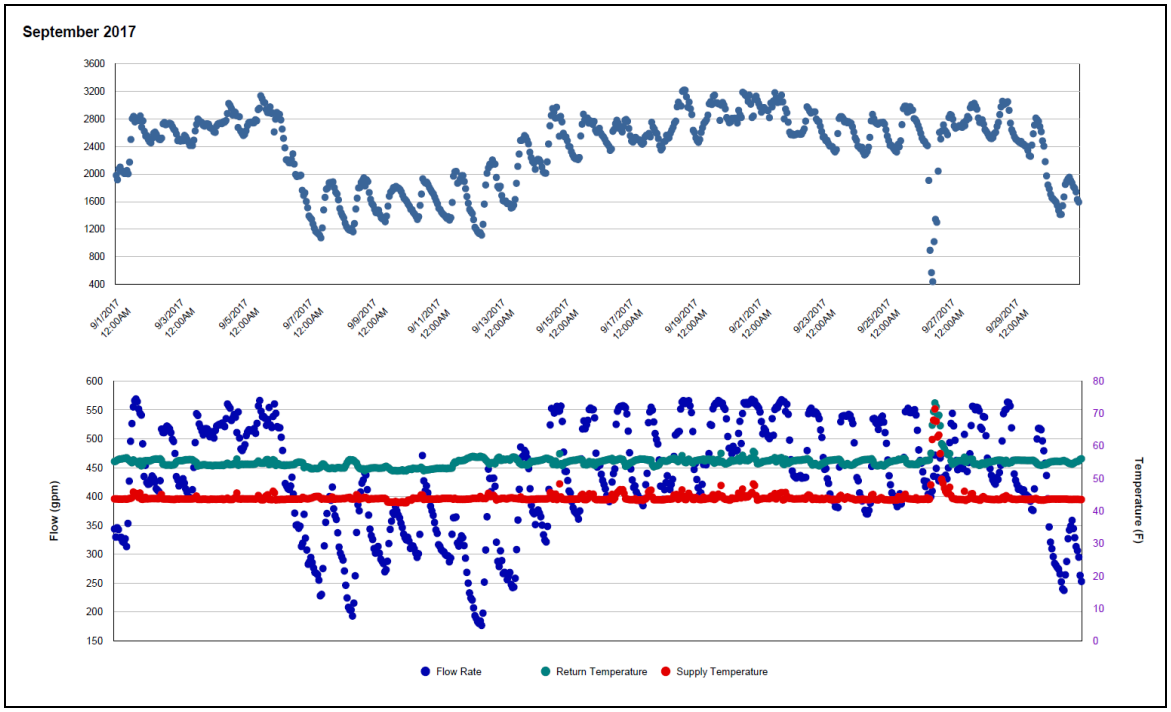
Quantitative descriptions and comments

The CHW consumption pattern increased by 100 Btu/day/ft^2 during 9/1/2017 – 9/6/2017 and 9/14/2017 – 9/29/2017. The flow rate also appears to increase around this time as well. The CHW consumption was estimated for this meter by model.

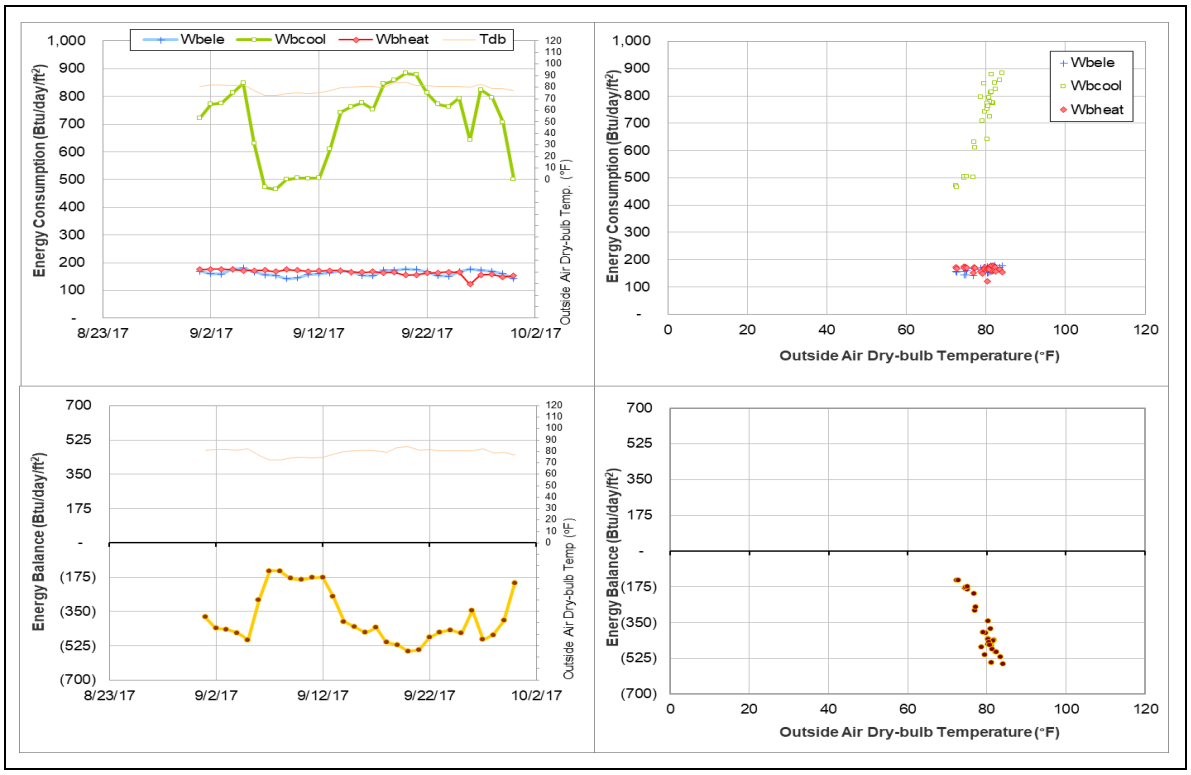
Explanatory Figure: 13 months energy balance plot with original data



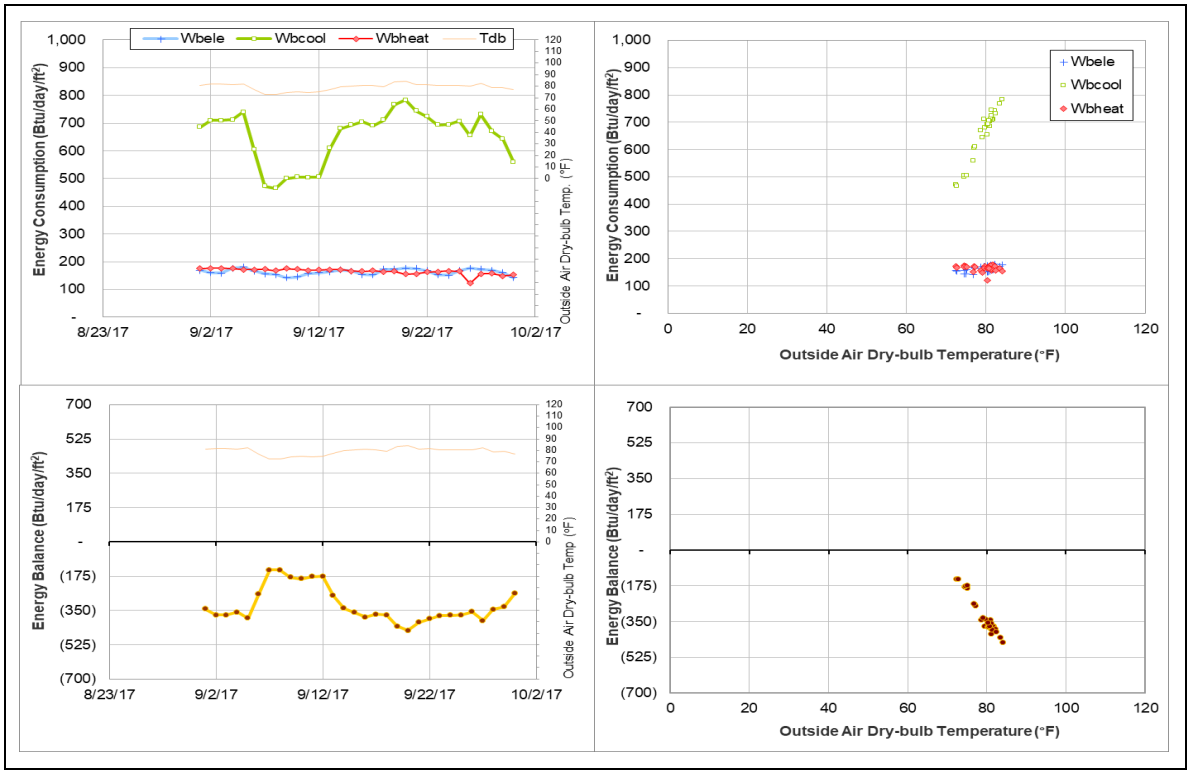
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter #006896 during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Nagle Hall (TAMU Bldg #506)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	001484	30	9/1/2017 – 9/30/2017	Model
CHW	003619	5	9/26/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption level is decreasing gradually.	6/18/2017 – Ongoing
CHW	The consumption level has decreased suddenly.	9/26/2017 – Ongoing

Changes in sensor readings related to the detected issues

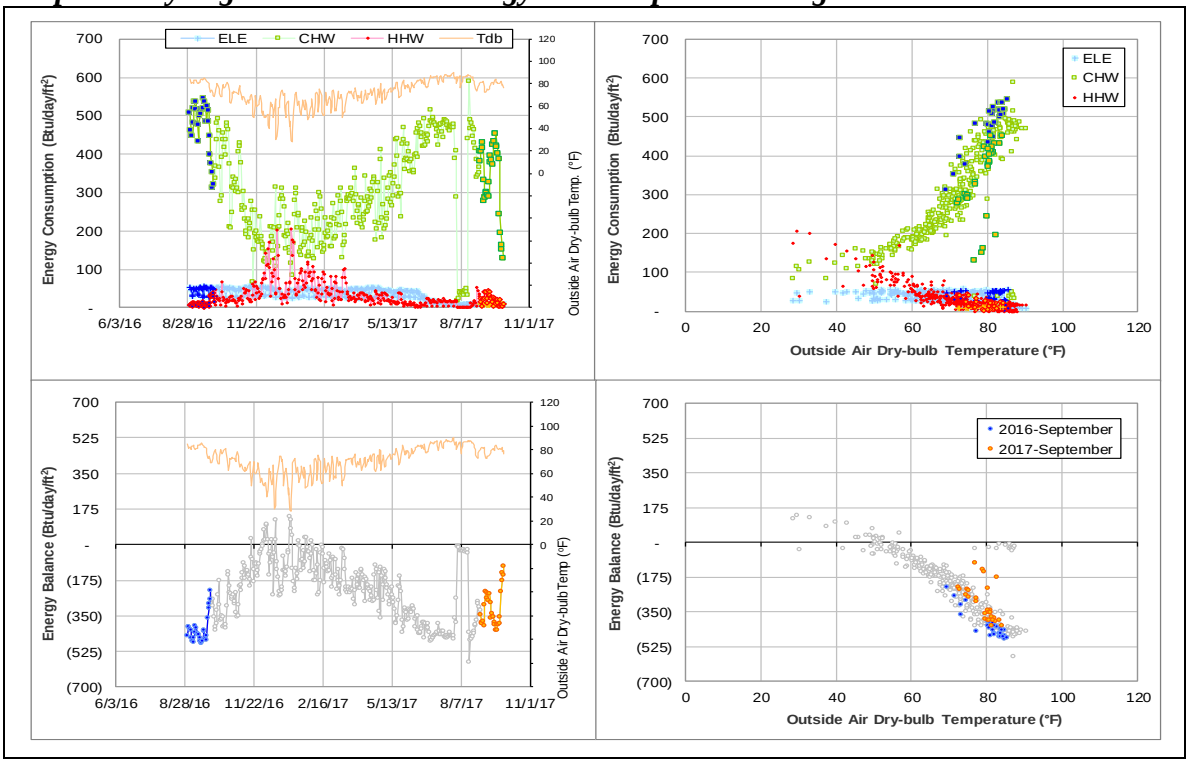
Energy Type	Meter ID	Period	Type	Description
CHW	003619	9/26/2017 – Ongoing	Flow Rate	Low

Quantitative descriptions and comments

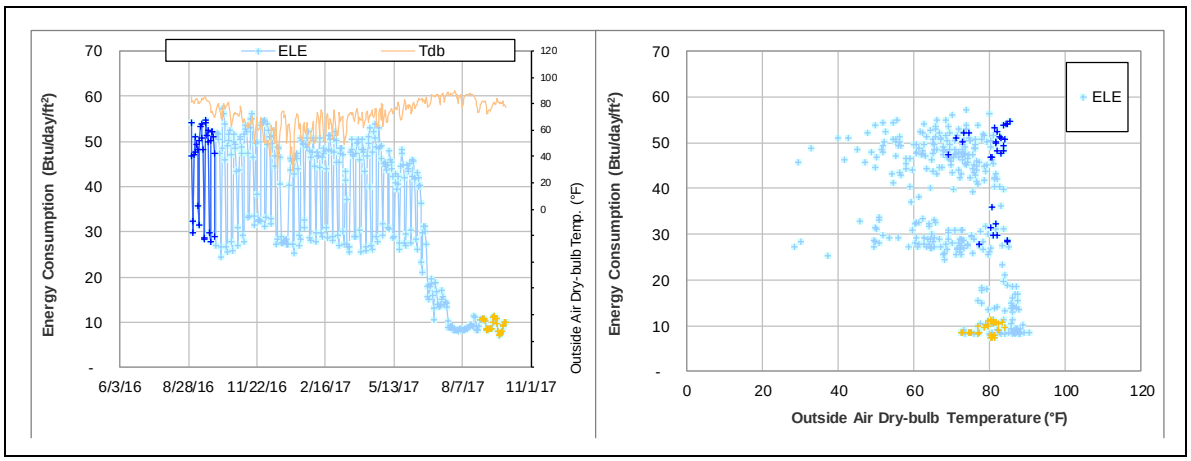
ELE consumption of this building has been as low as 50 Btu/day/ft^2 and decreased to an even lower level near 10 Btu/day/ft^2 in August 2017 and remained low. Consumption of the whole month is estimated by model.

A central plant incident caused disturbance to this building and CHW of this building did not recover immediately after the incident was resolved. CHW flow remained low after the incident. The affected days are estimated by model.

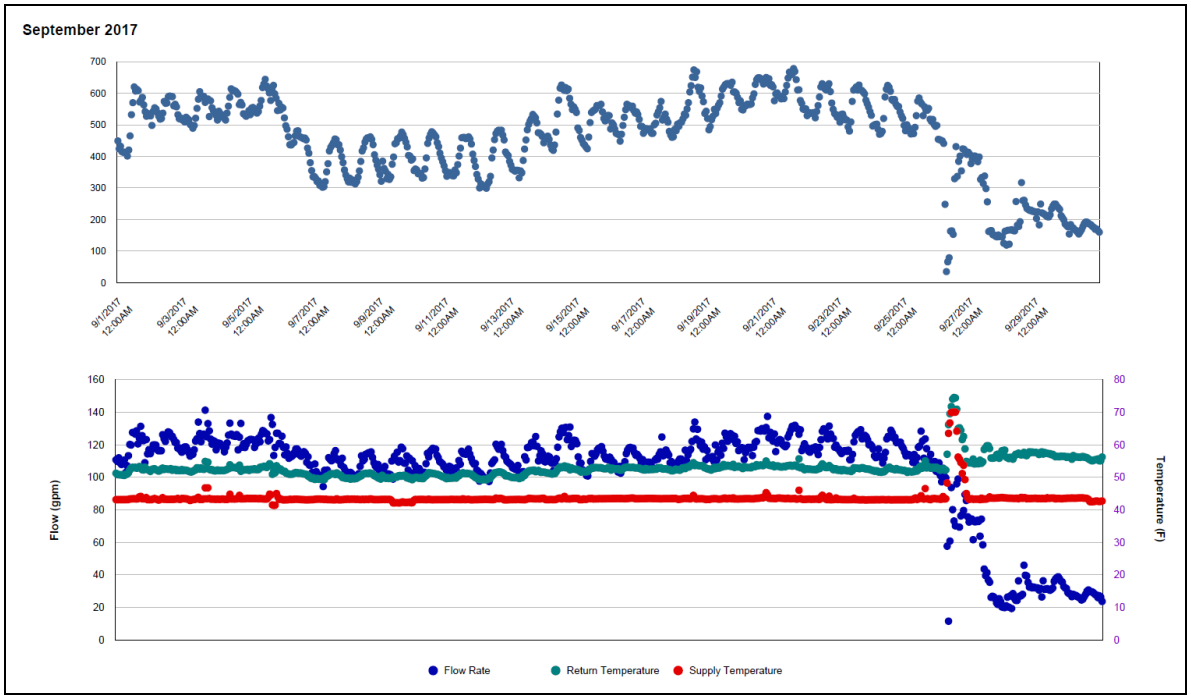
Explanatory Figure: 13 months energy balance plot with original data.



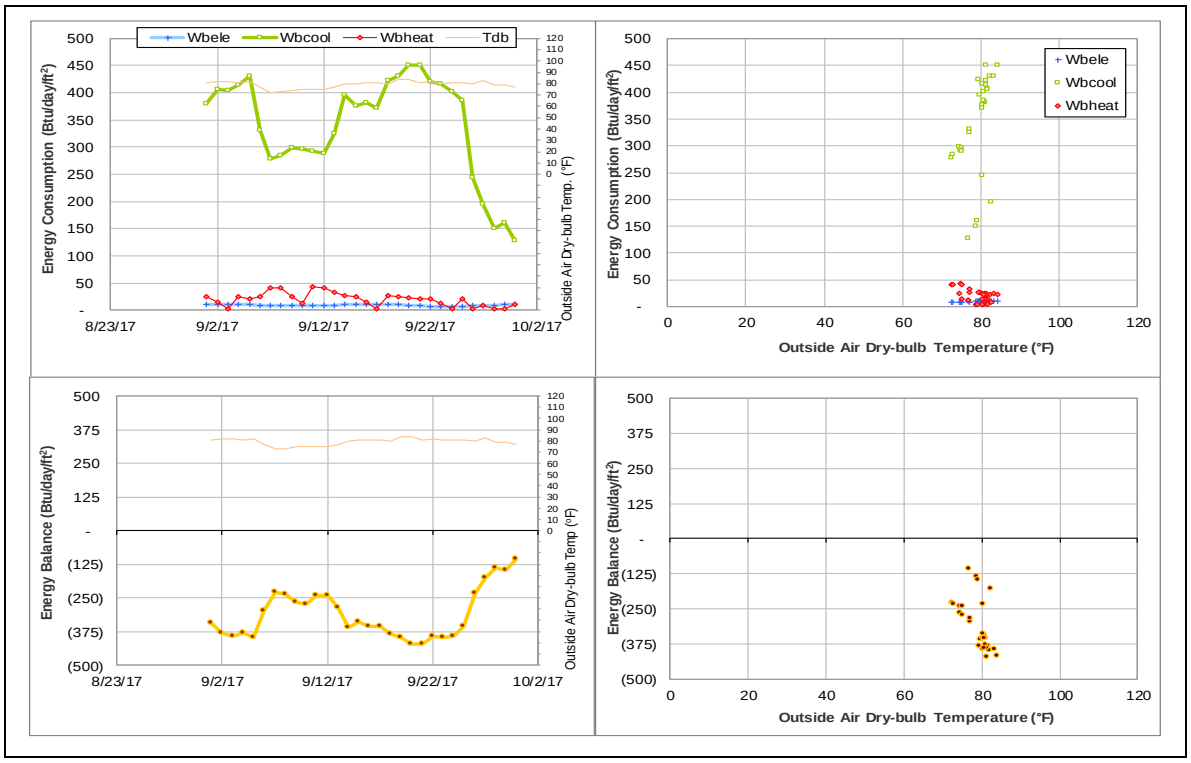
Explanatory Figure: 13 months ELE consumption plot with original data



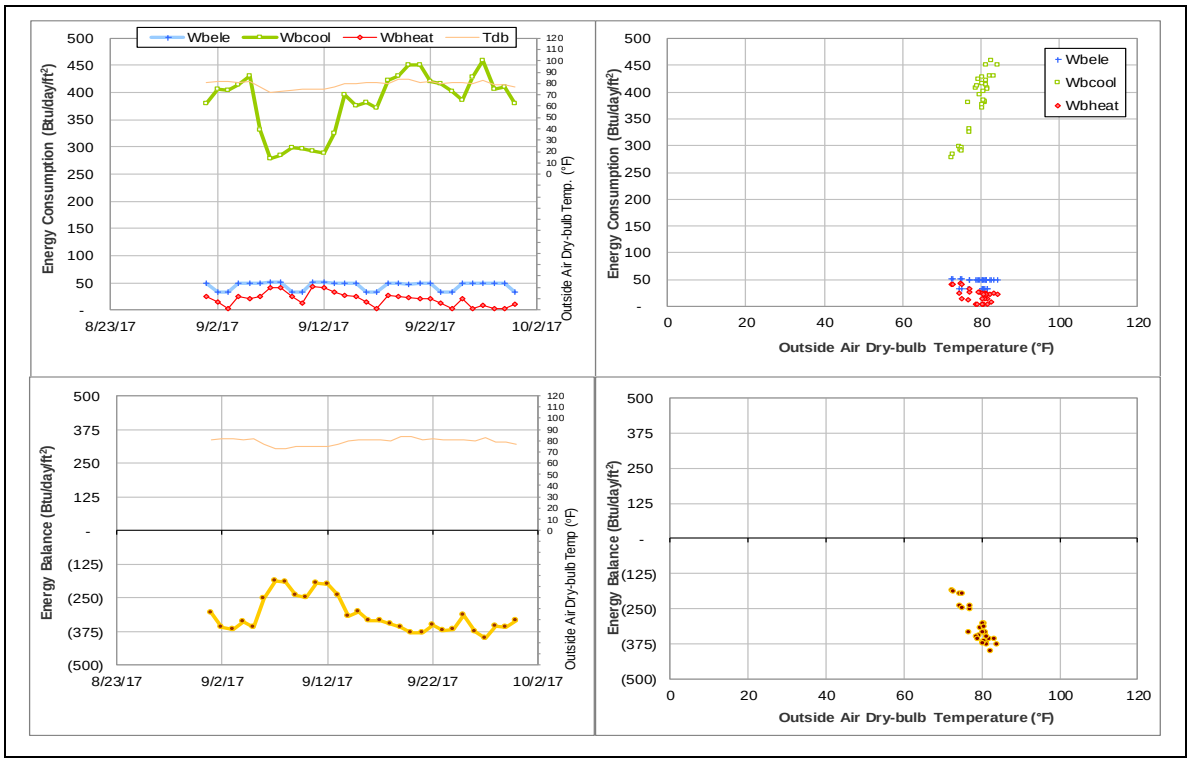
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Heep Laboratory Building (TAMU Bldg #511)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	005821	30	9/1/2017 – 9/30/2017	Model
HHW	005825	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	4/1/2017 – Ongoing
HHW	The consumption level has decreased suddenly.	5/8/2017 – Ongoing

Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	005821	4/1/2017 – Ongoing	Supply Temp	Faulty – drifted
HHW	005825	5/8/2017 – Ongoing	Flow rate	Fluctuates
			Return temp	High
		7/19/2017 – Ongoing	Supply temp	High

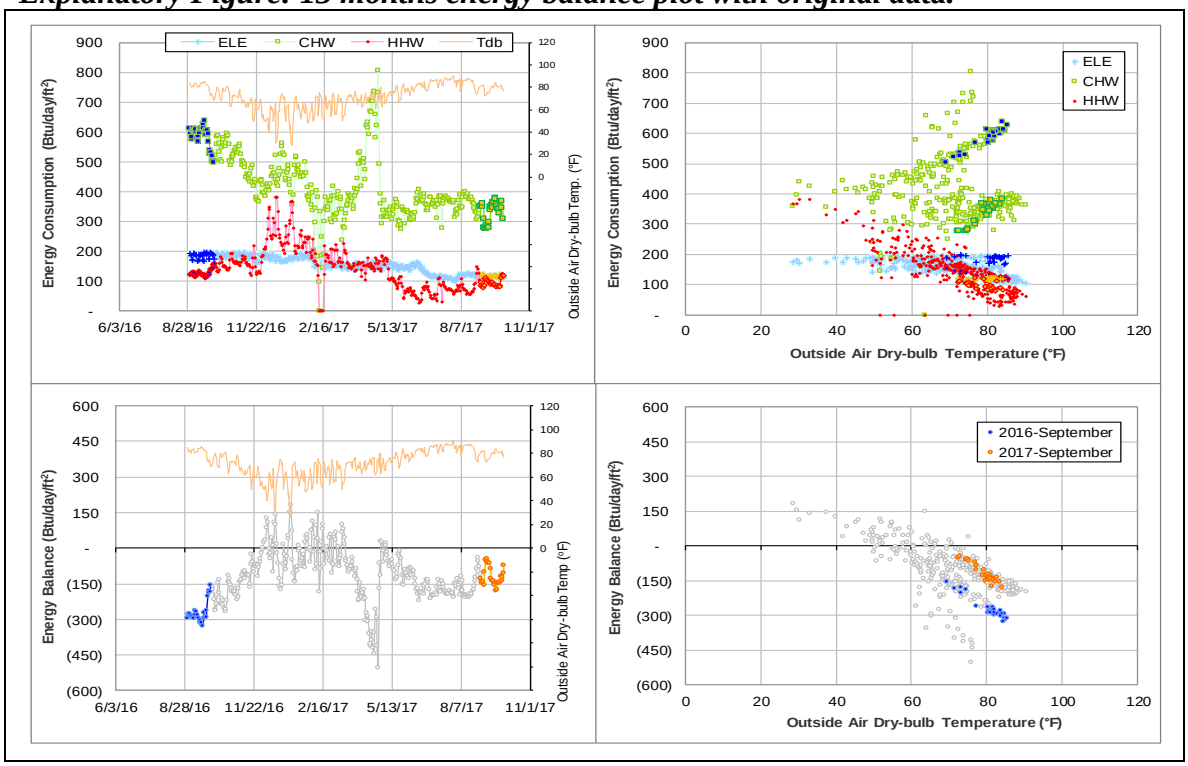
Quantitative descriptions and comments

The CHW supply temp sensor appears to be faulty. The supply temp readings started to drift in the end of March 2017 and decreased to 35°F during April 2017. On 4/27/2017, the supply temp value jumped to 44°F. By comparing this value with the two hydrologically closest buildings #0471 Pavilion and #0444 Peterson, it is suspected that this meter is still under-calibrated (See the explanatory figure). This is also supported by the fact that CHW consumption decreased by 250 Btu/day/ft^2 (40%) compared to the level of the last year. The CHW of the whole month is estimated by model.

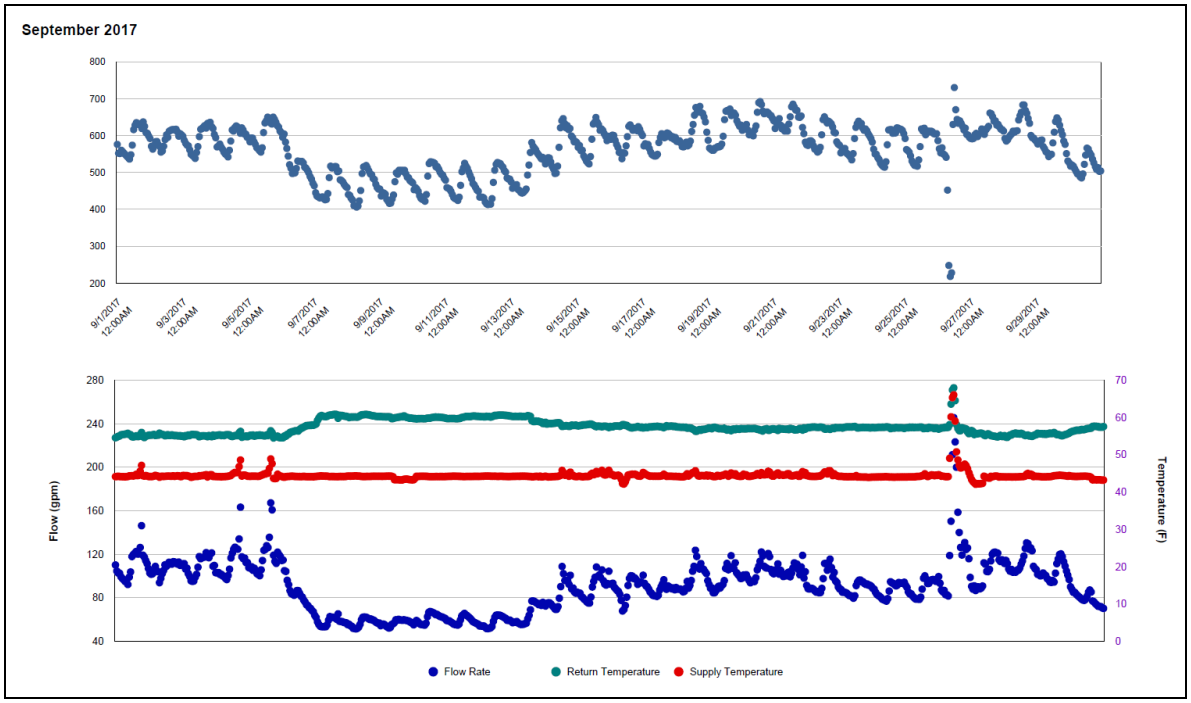
The HHW flow sharply dropped on 5/8/2017 from 20 – 25 gpm to 10 – 15 gpm, resulting in a significant decrease in HHW consumption. This decrease did not occur in the previous year but is suspected to be a plant setback. The meter readings started to fluctuate since 7/10/2017. The flow reading had a sudden increase and Delta-T decreased as the return temperature became higher. The combined effect is a slight increase in consumption, but the level is still lower than the level before 5/8/2017. There is also an increase in supply temperature which is suspected to be due to the plant operation. The HHW of this month is estimated by model.

See also II-3.

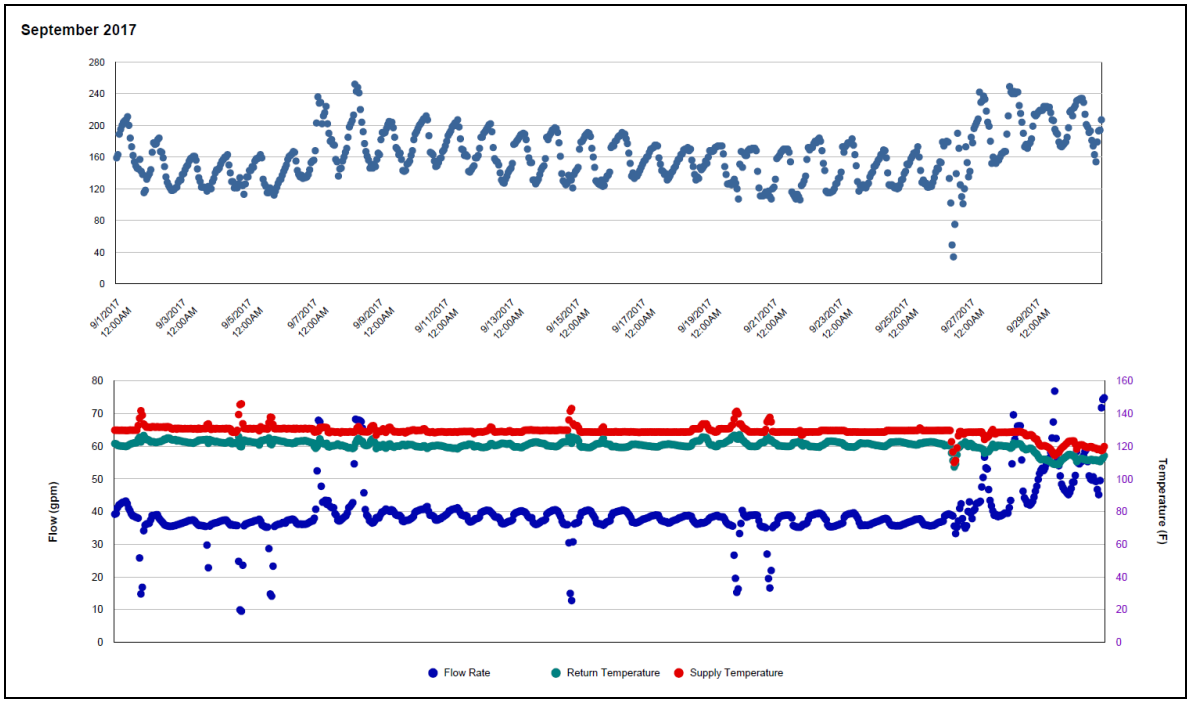
Explanatory Figure: 13 months energy balance plot with original data.



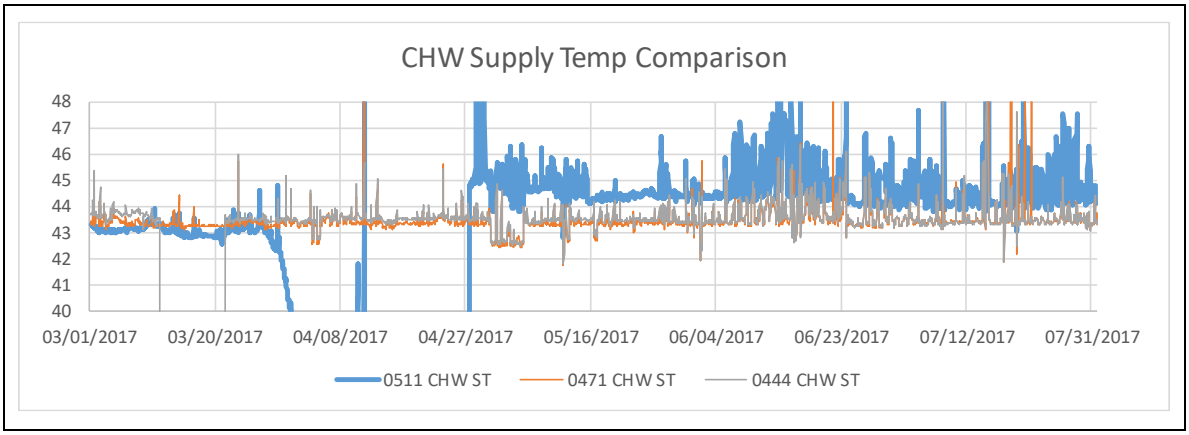
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during September 2017)



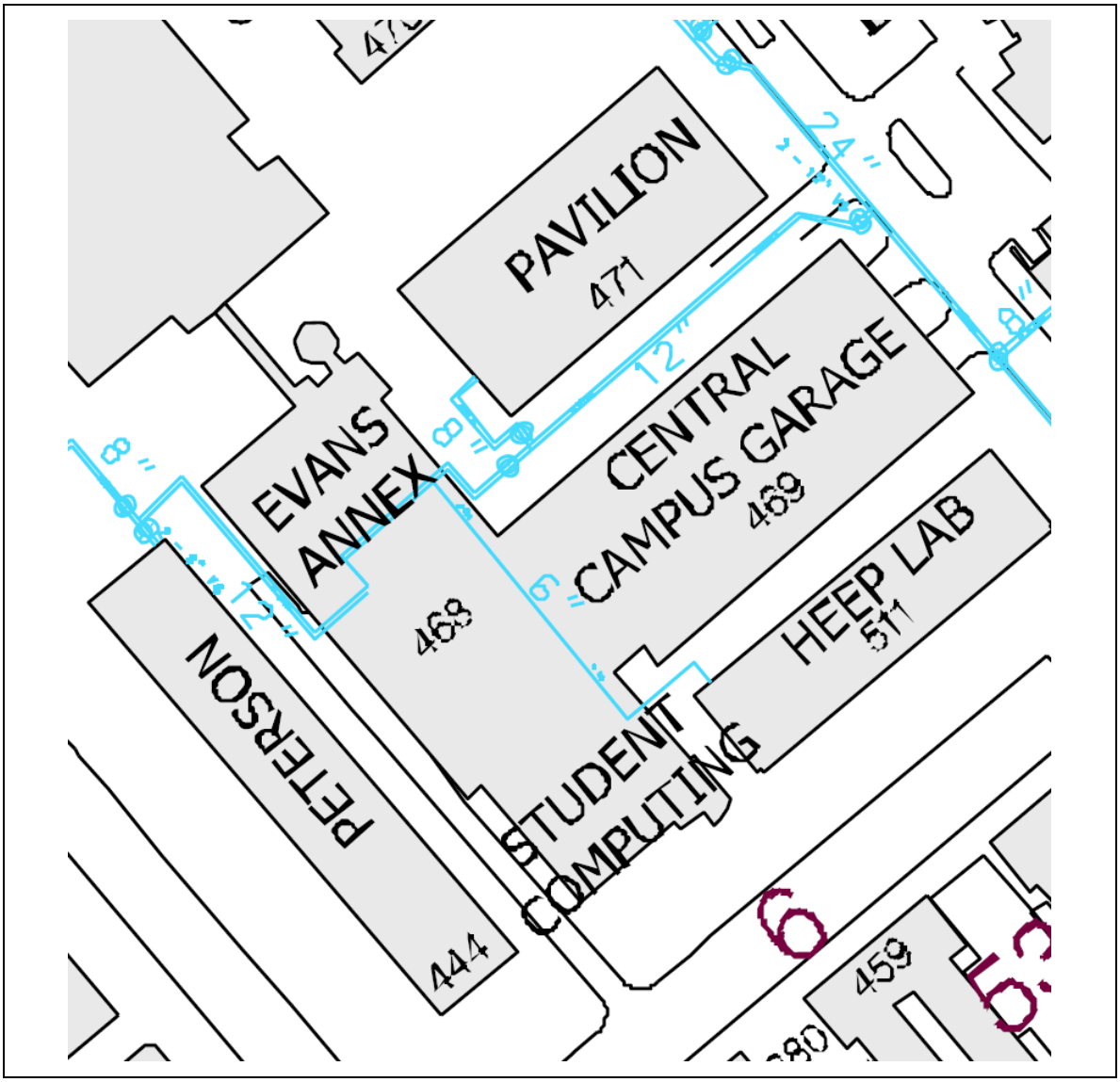
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



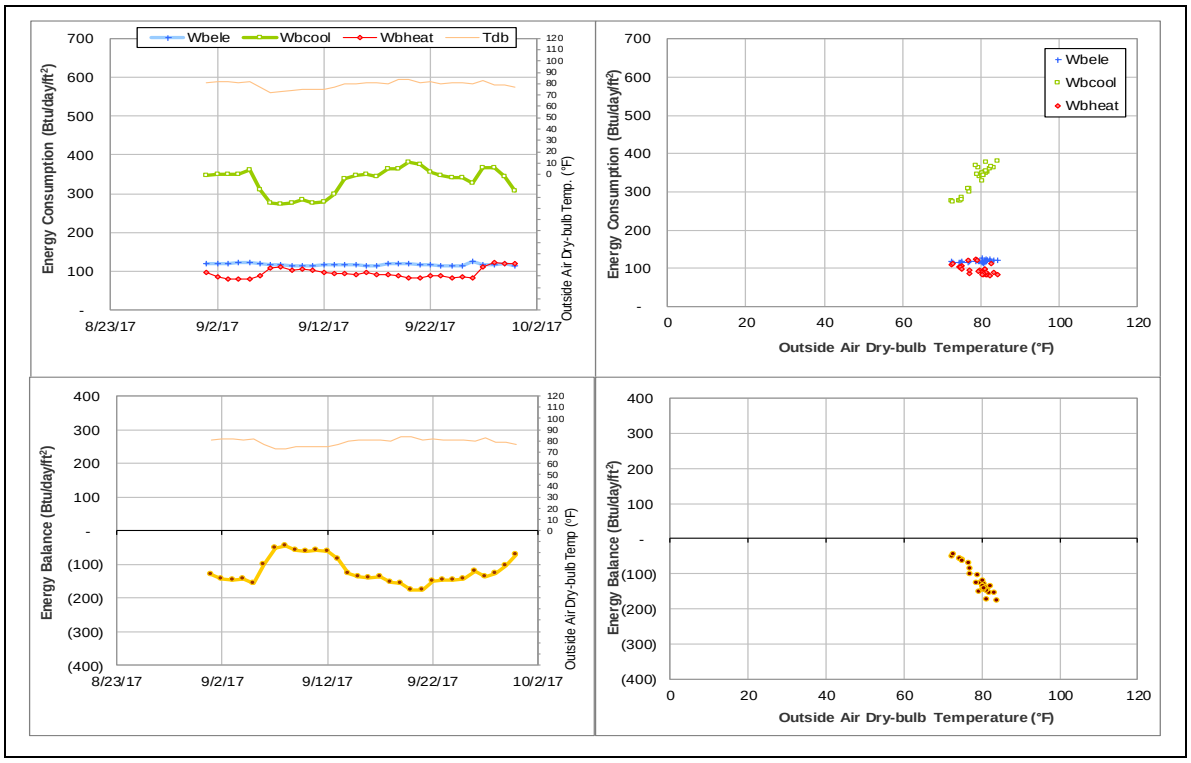
Explanatory Figure: CHW supply temp comparison of hydrologically closest buildings.



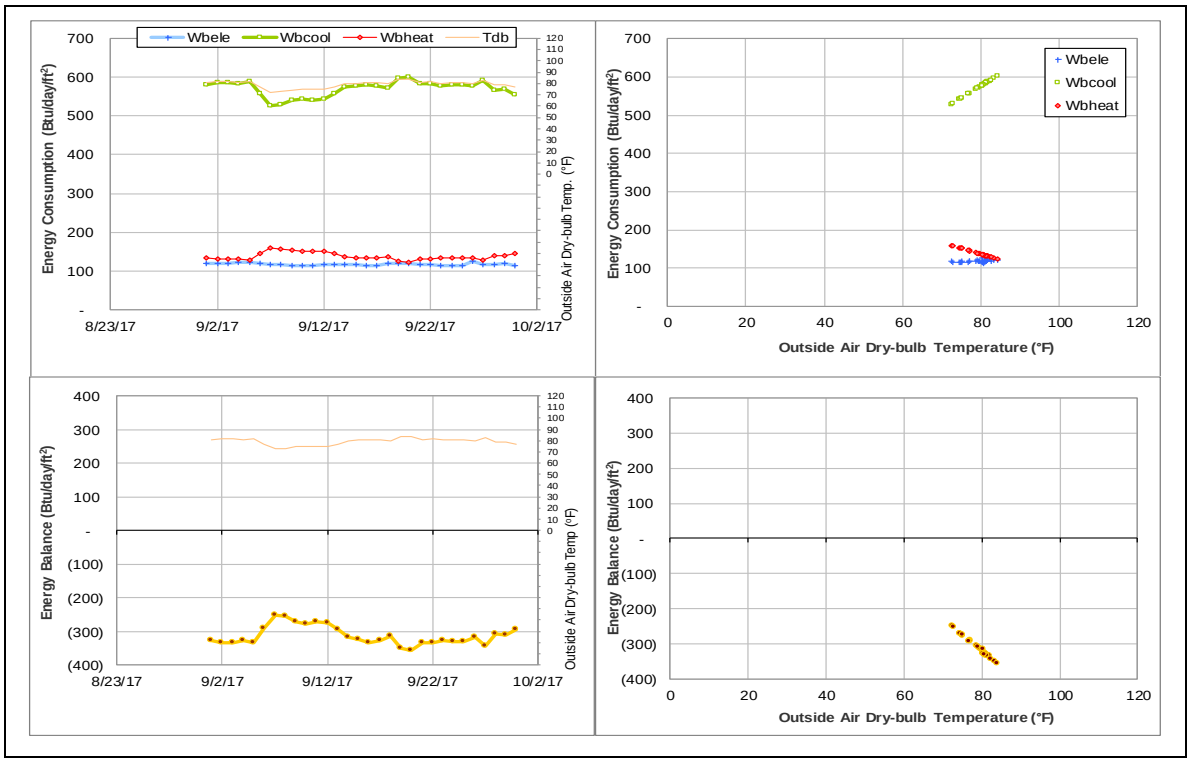
Explanatory Figure: CHW pipeline map near #0511.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



All Faiths Chapel (TAMU Bldg #512)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	004293	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	4/26/2017 – Ongoing
	Scattering data are observed.	6/1/2017 – Ongoing

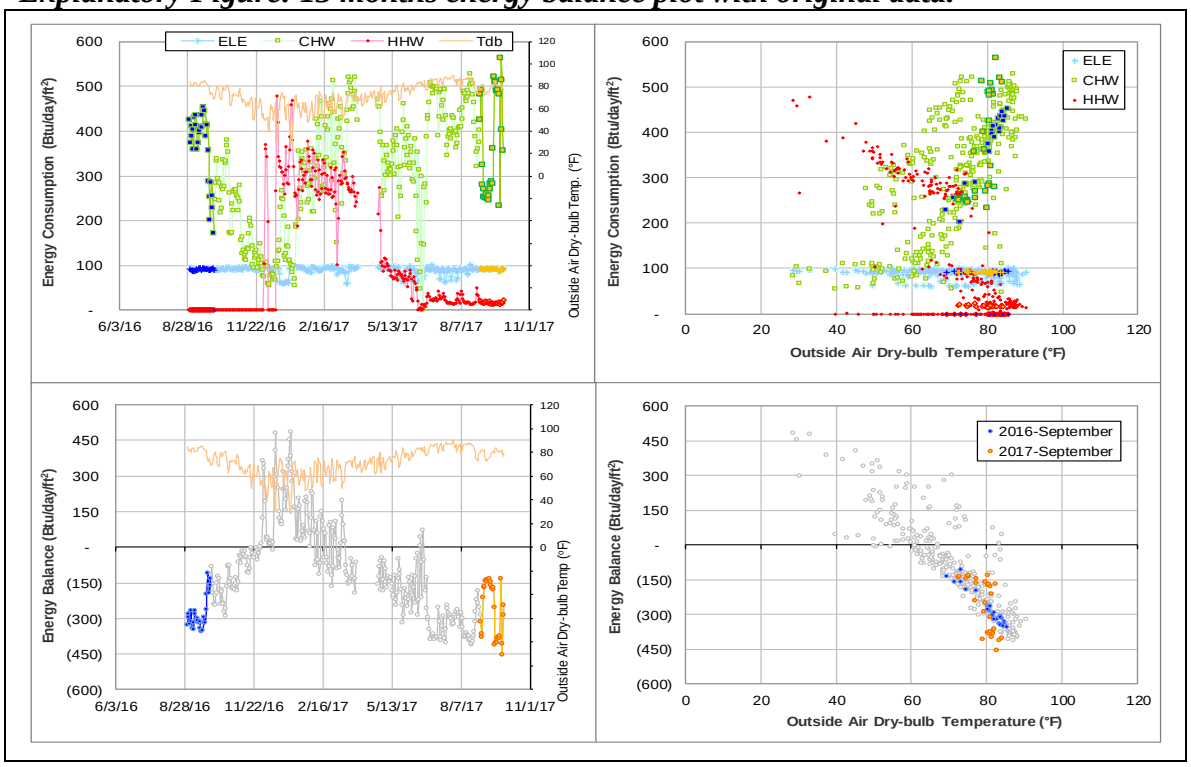
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	004293	6/16/2017 – Ongoing	Delta-T	Zero or near zero

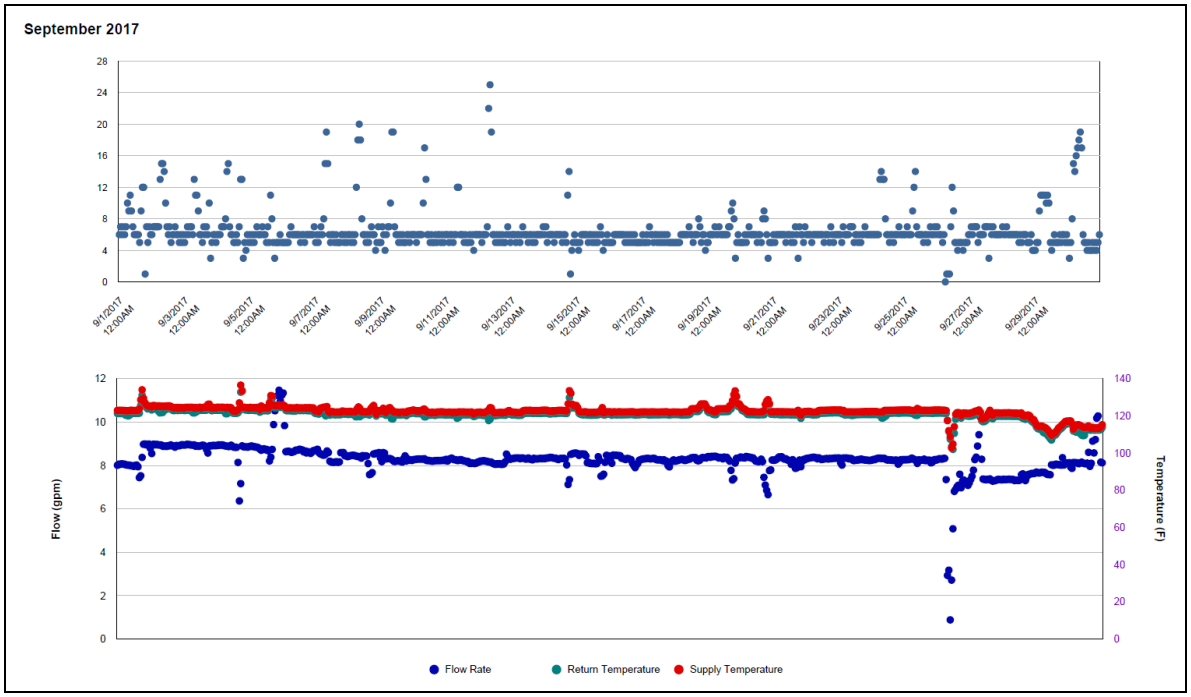
Quantitative descriptions and comments

HHW flow rate and both temperatures had been very unstable and have had multiple periods of anomaly during June 2017. The Delta-T became very small since 6/16/2017. The HHW of the whole month is estimated by model.

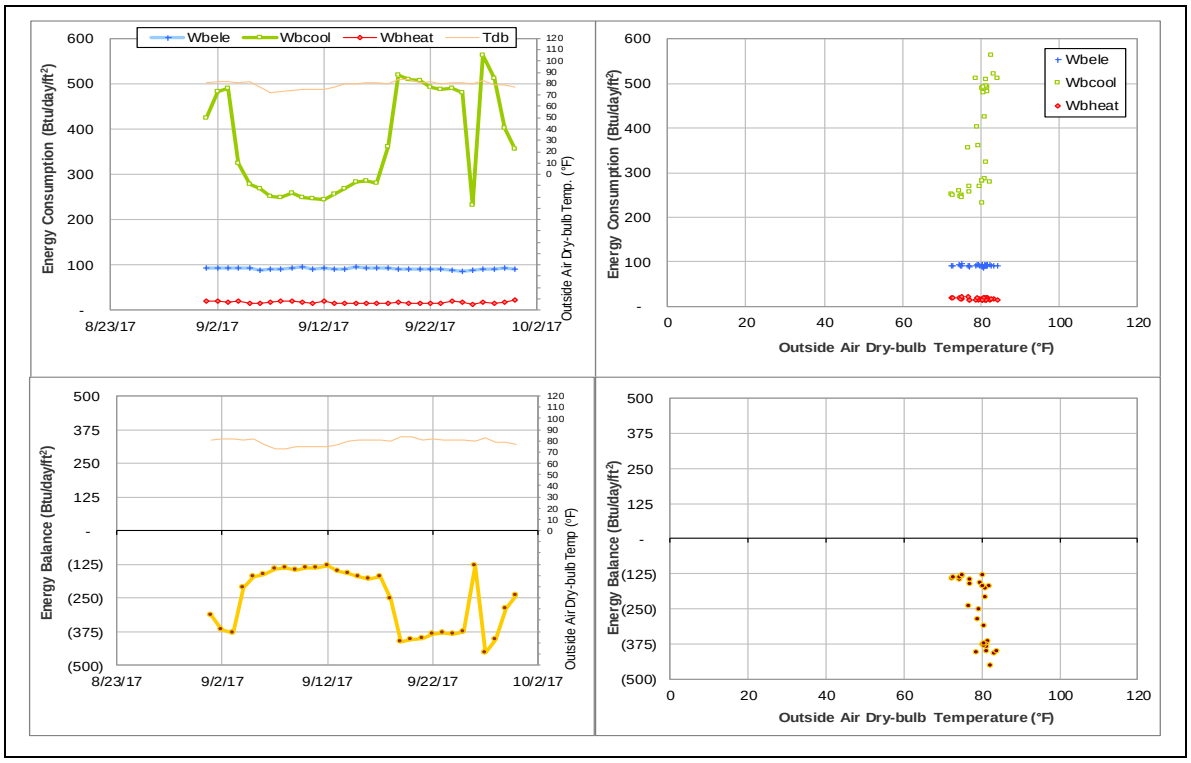
Explanatory Figure: 13 months energy balance plot with original data.



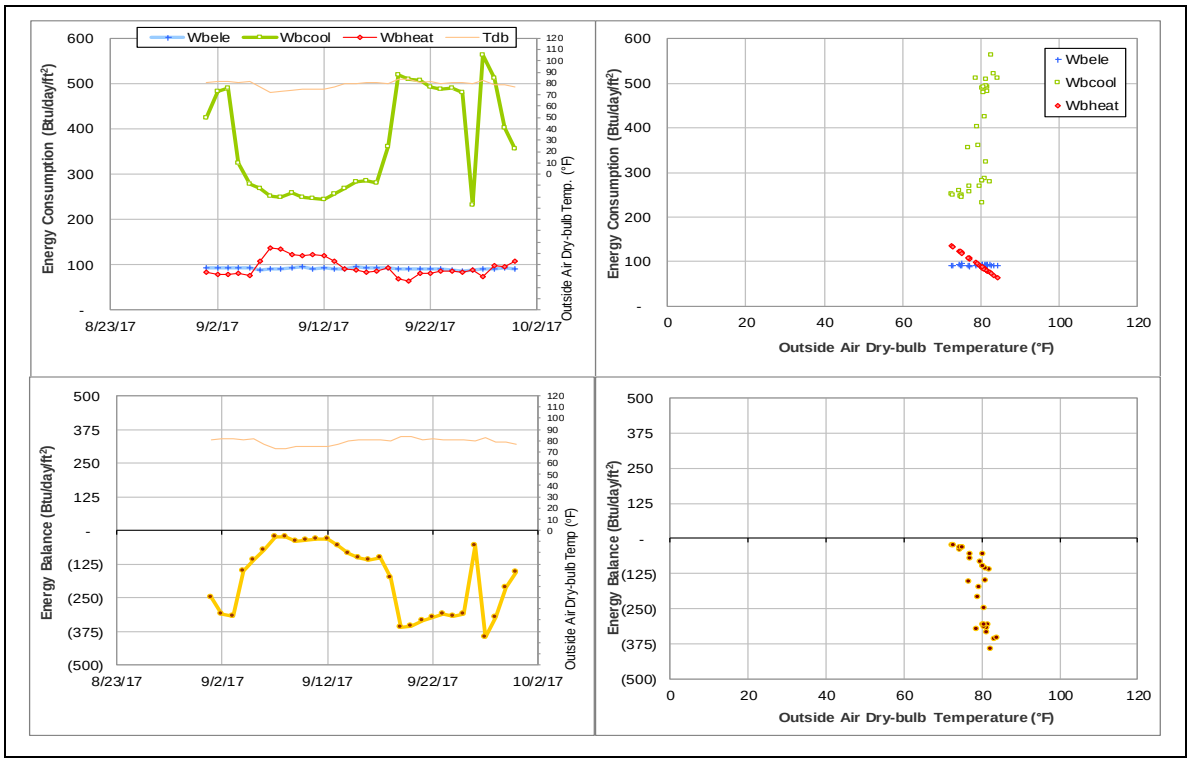
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Doherty Building (TAMU Bldg #513)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002898	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is lower than the level during the past year.	7/1/2017 – Ongoing

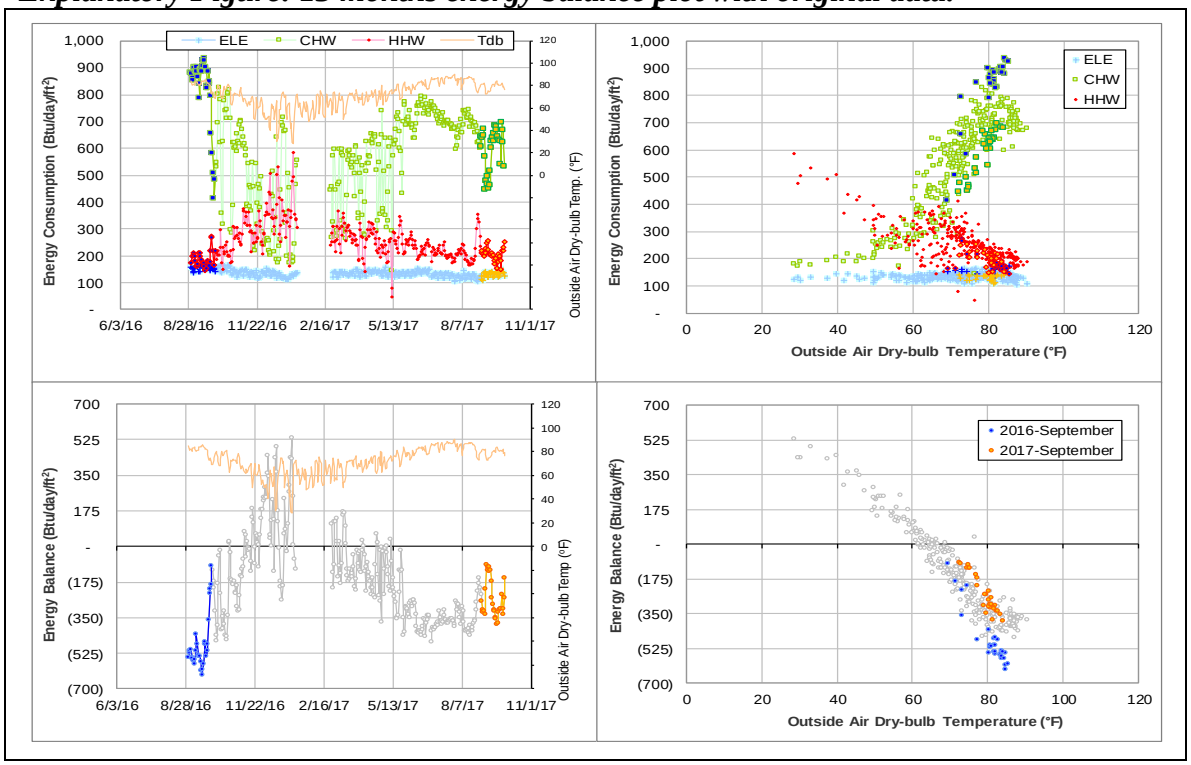
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002898	7/1/2017 – Ongoing	Flow rate	Decreasing gradually

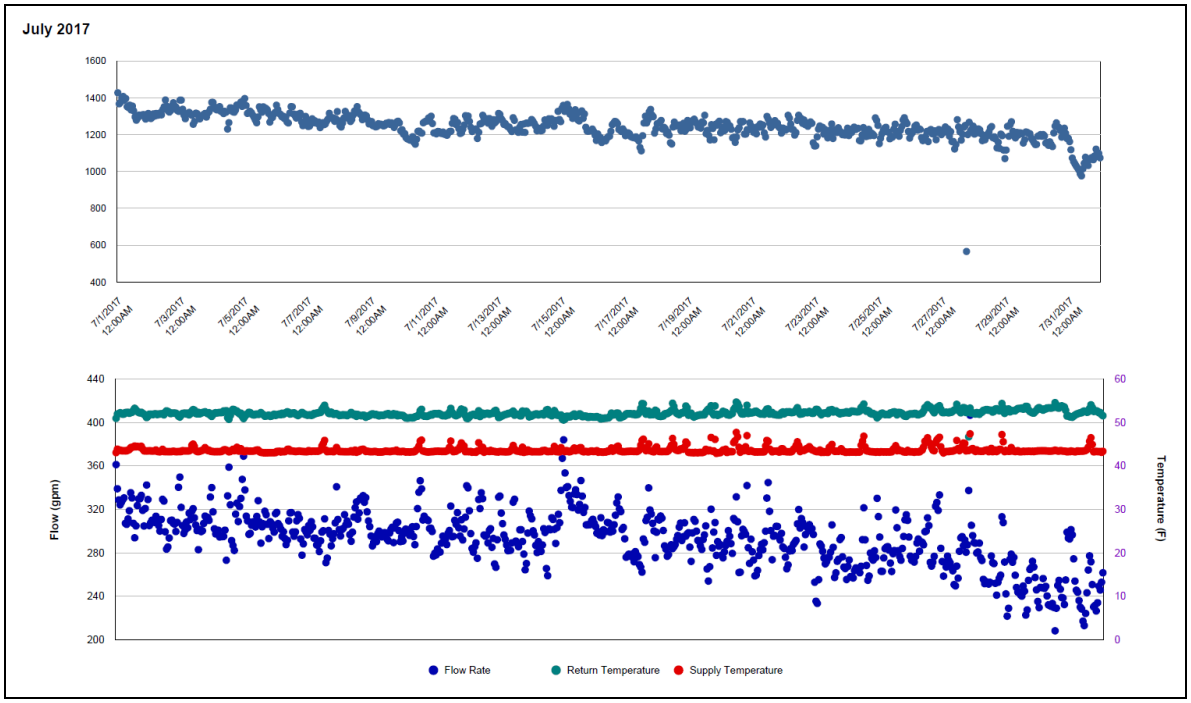
Quantitative descriptions and comments

CHW flow rate started to slide down slowly since 7/1/2017 from 300 – 340 gpm at the beginning of the July 2017 to 240 – 280 gpm in December 2017 before the plant outage disruption on 9/26/2017. The consumption level is seen about 200 Btu/day-ft^2 lower than the previous year. The whole month is estimated by model.

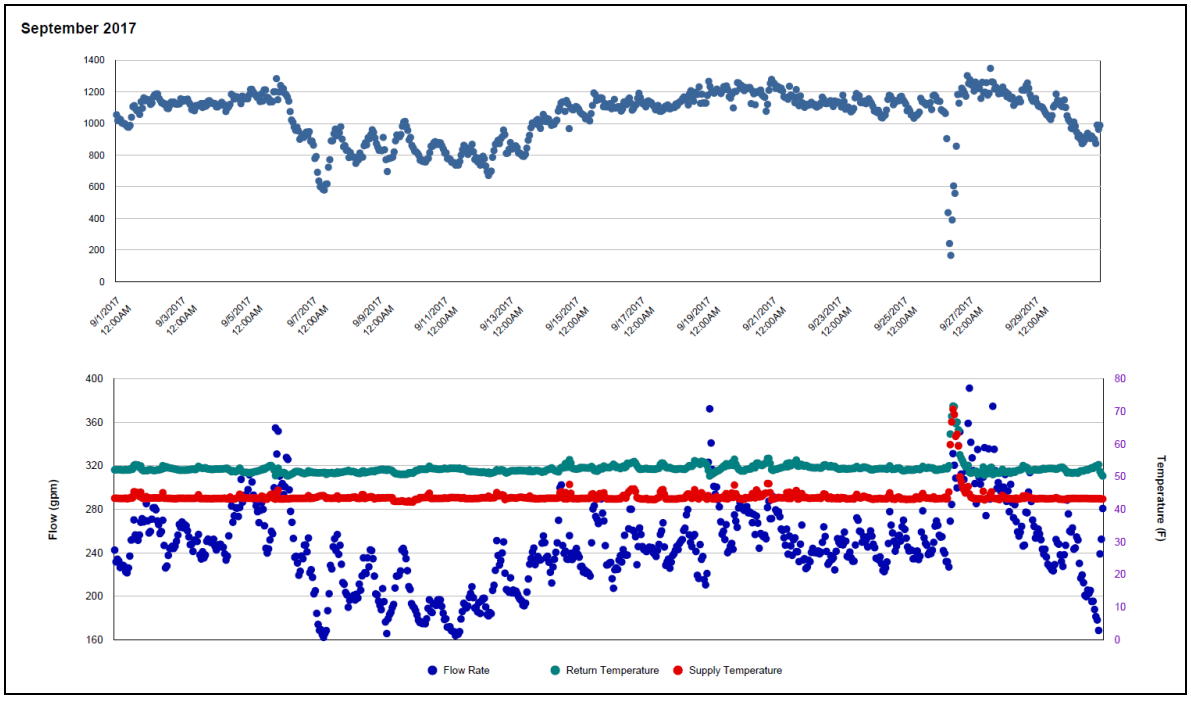
Explanatory Figure: 13 months energy balance plot with original data.



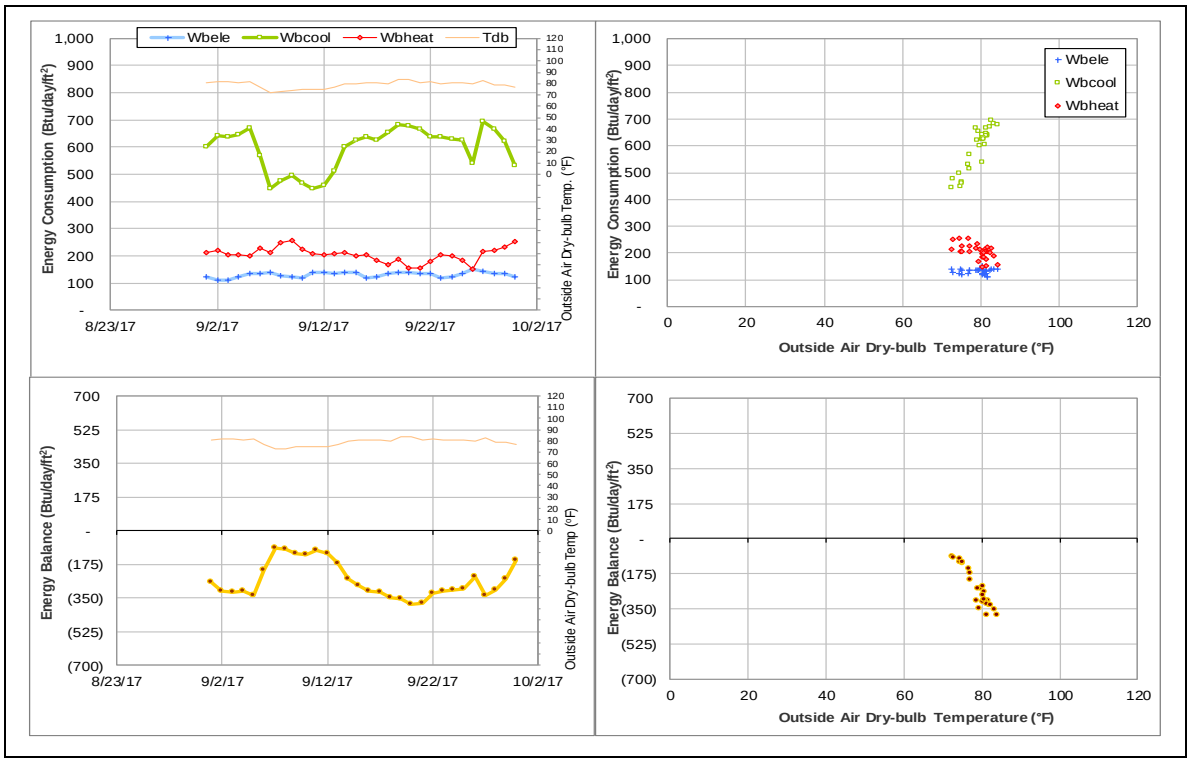
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during July 2017)



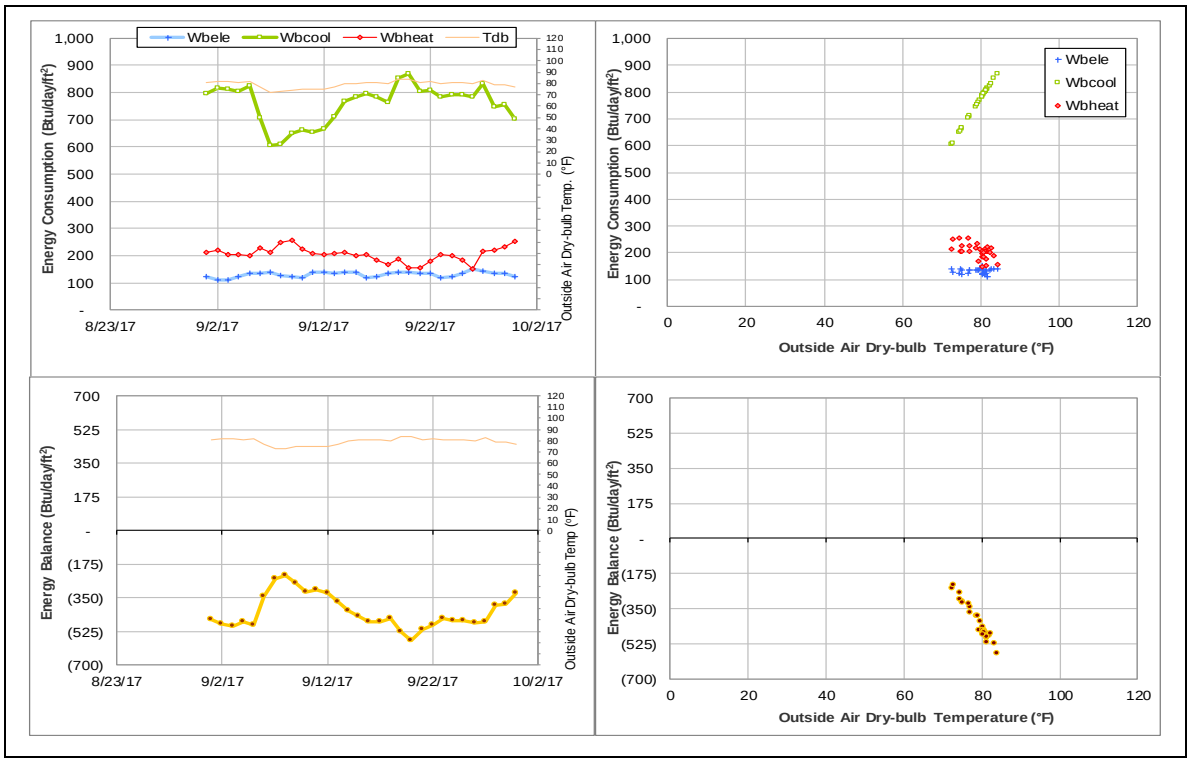
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Computing Services Center (TAMU Bldg #516)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003959	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level has increased suddenly.	6/19/2017 – Ongoing

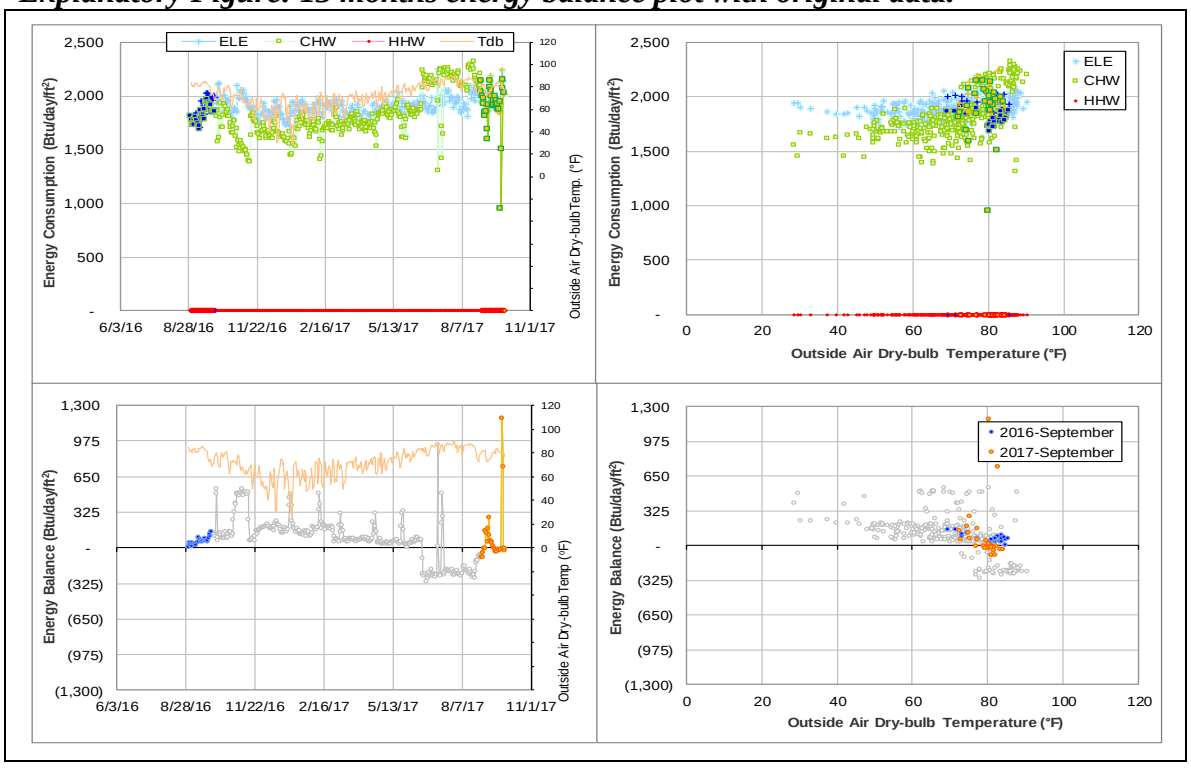
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	003959	6/19/2017 – Ongoing	Flow rate	High

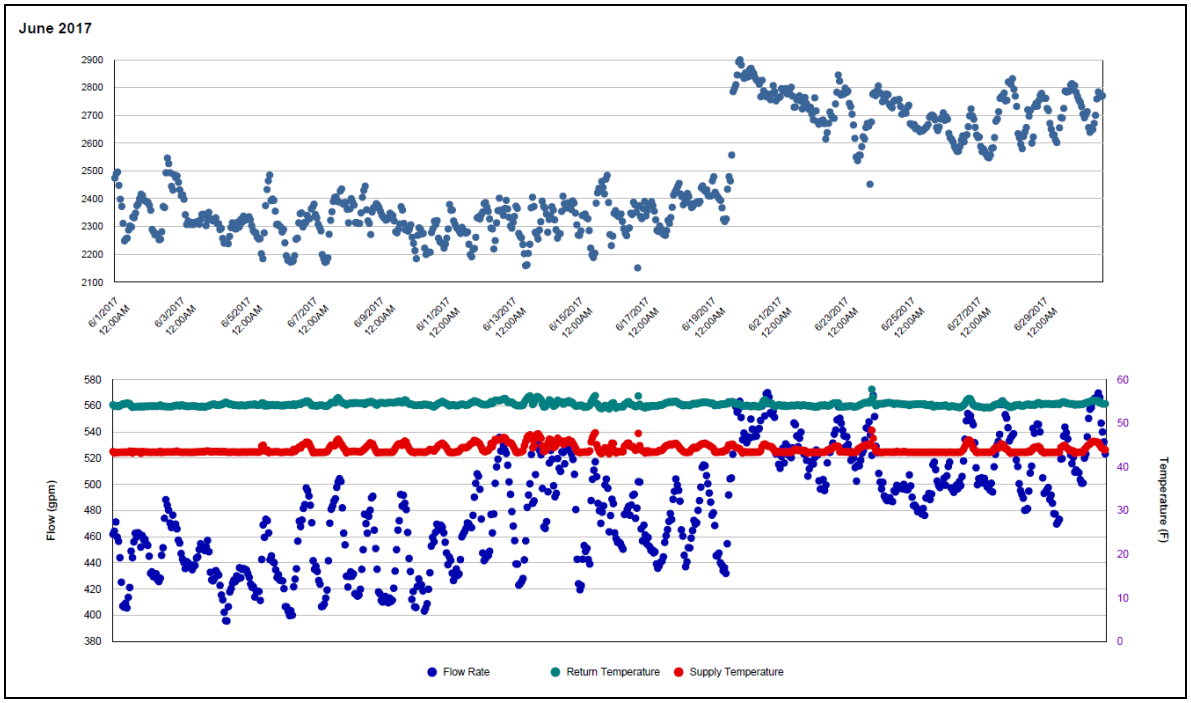
Quantitative descriptions and comments

CHW flow rate increased from the range of 400 – 520 gpm to 480 – 560 gpm since 6/19/2017 resulting in a significant increase in CHW consumption. The whole month is estimated by model.

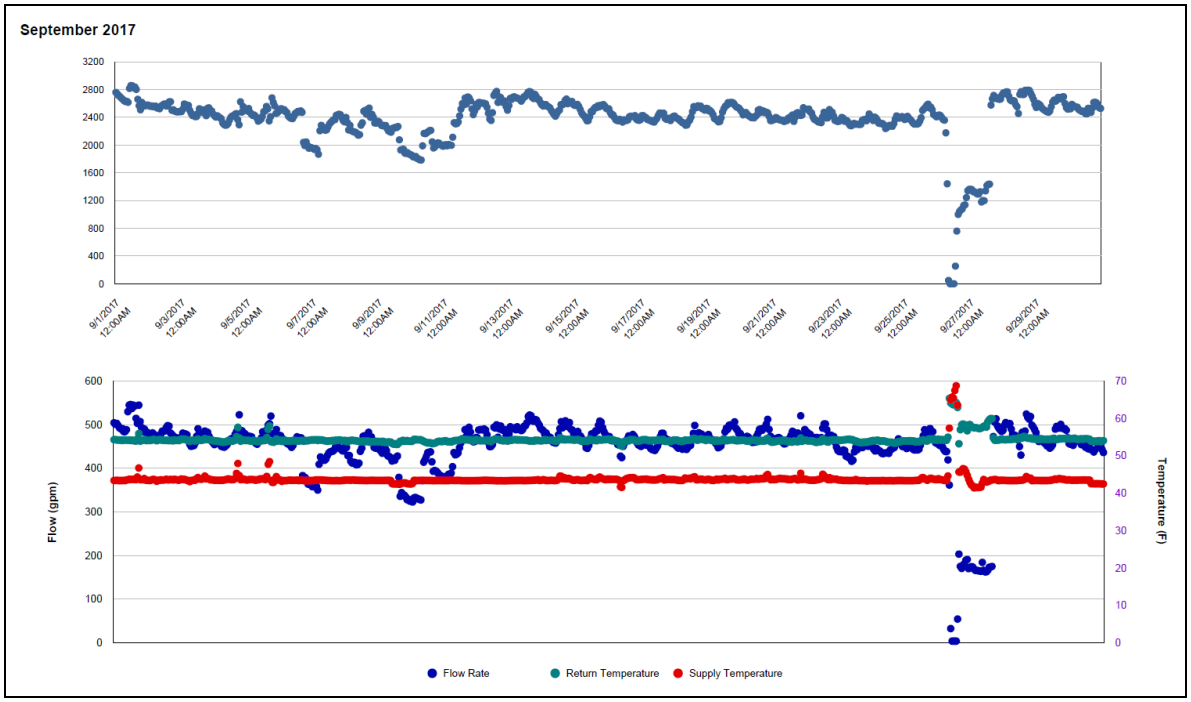
Explanatory Figure: 13 months energy balance plot with original data.



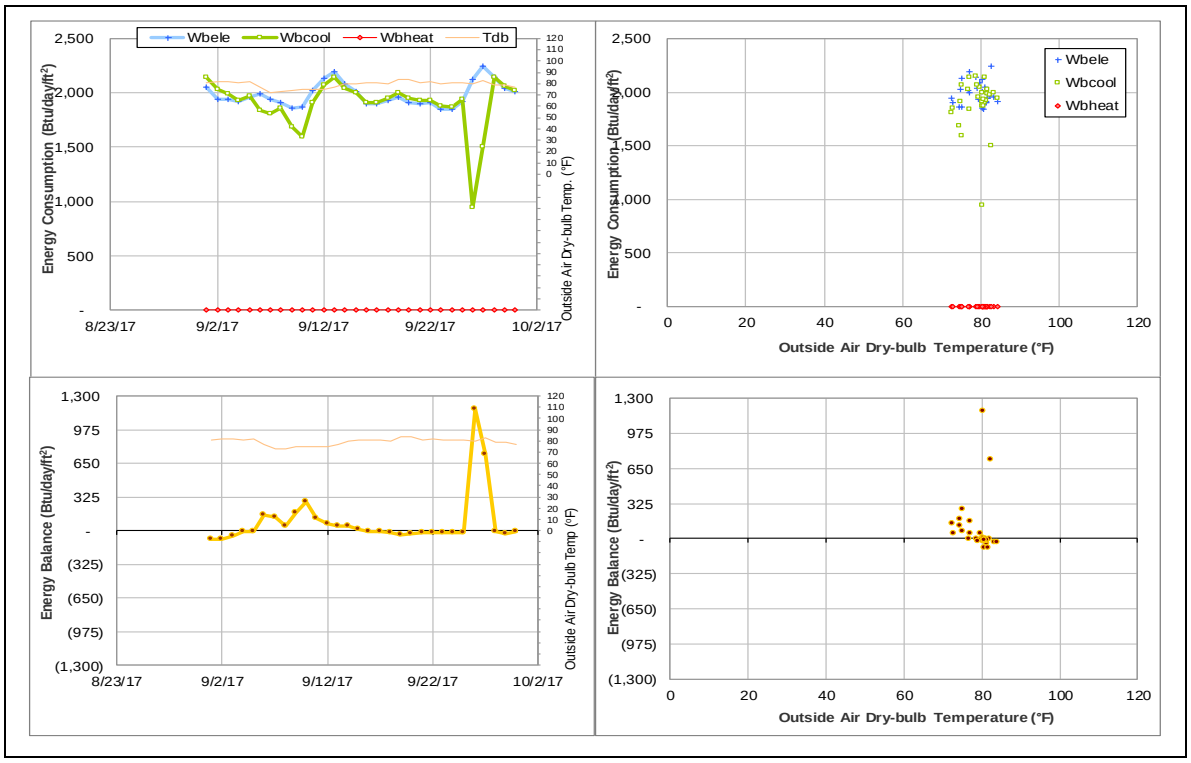
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during June 2017)



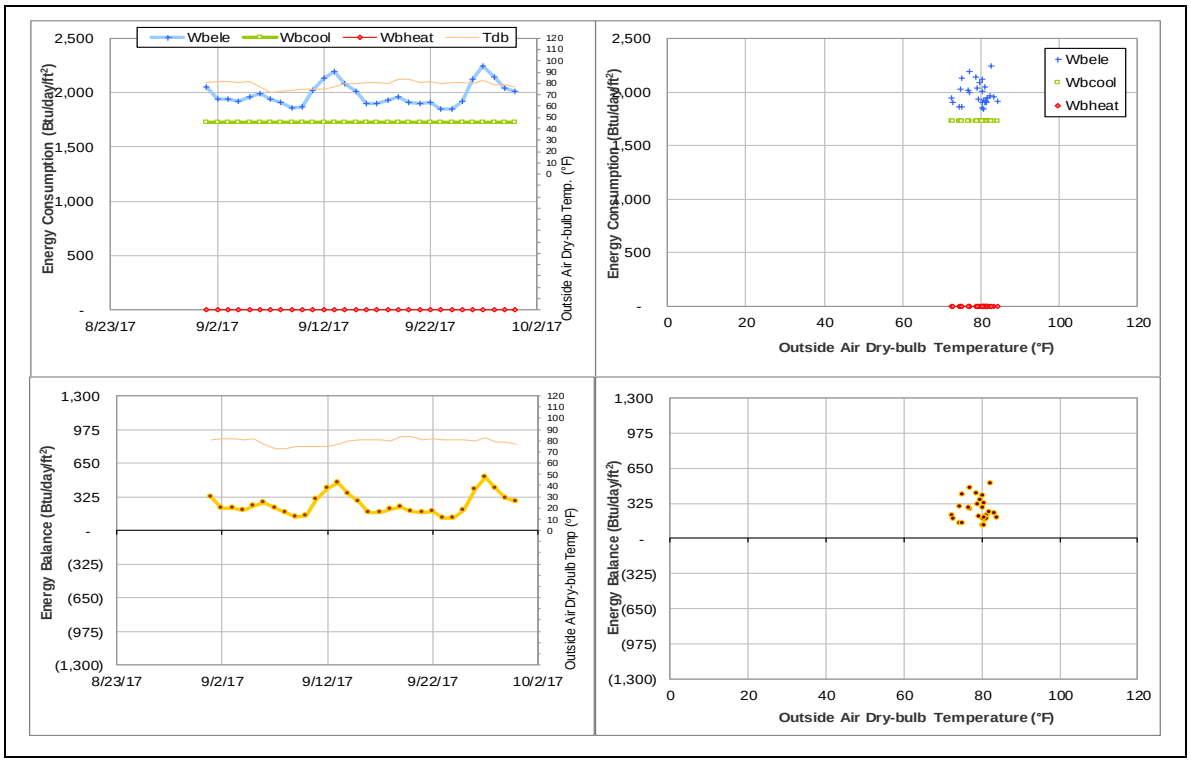
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Zachry Engineering Education Complex (TAMU Bldg #518)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	009874	16	9/15/2017 - 9/30/2017	Factor
ELE	009875	16	9/15/2017 - 9/30/2017	Factor
CHW	009964	1	9/28/2017	Model
HHW	009965	1	9/28/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The metered values appear to be faulty.	9/15/2017 – Ongoing
CHW	The consumption increased for a short period.	9/28/2017
HHW	The consumption increased for a short period.	9/28/2017

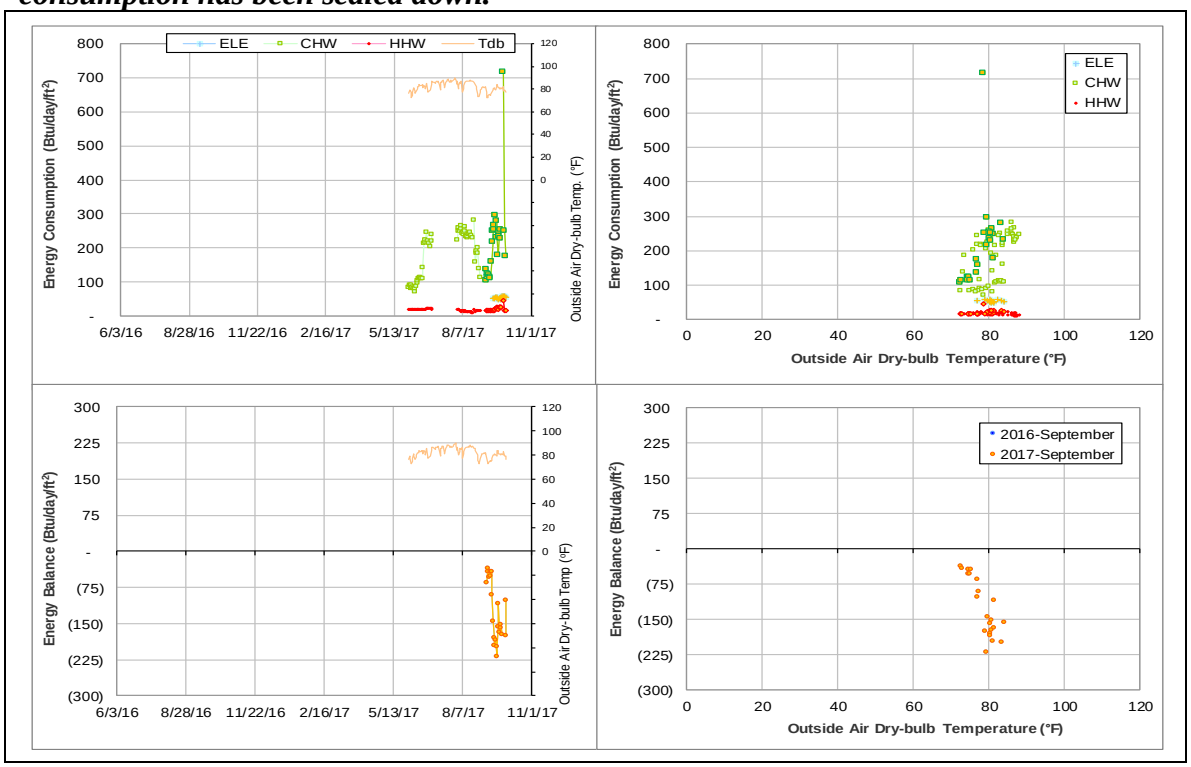
Quantitative descriptions and comments

The four MID's of this building became available in August 2017.

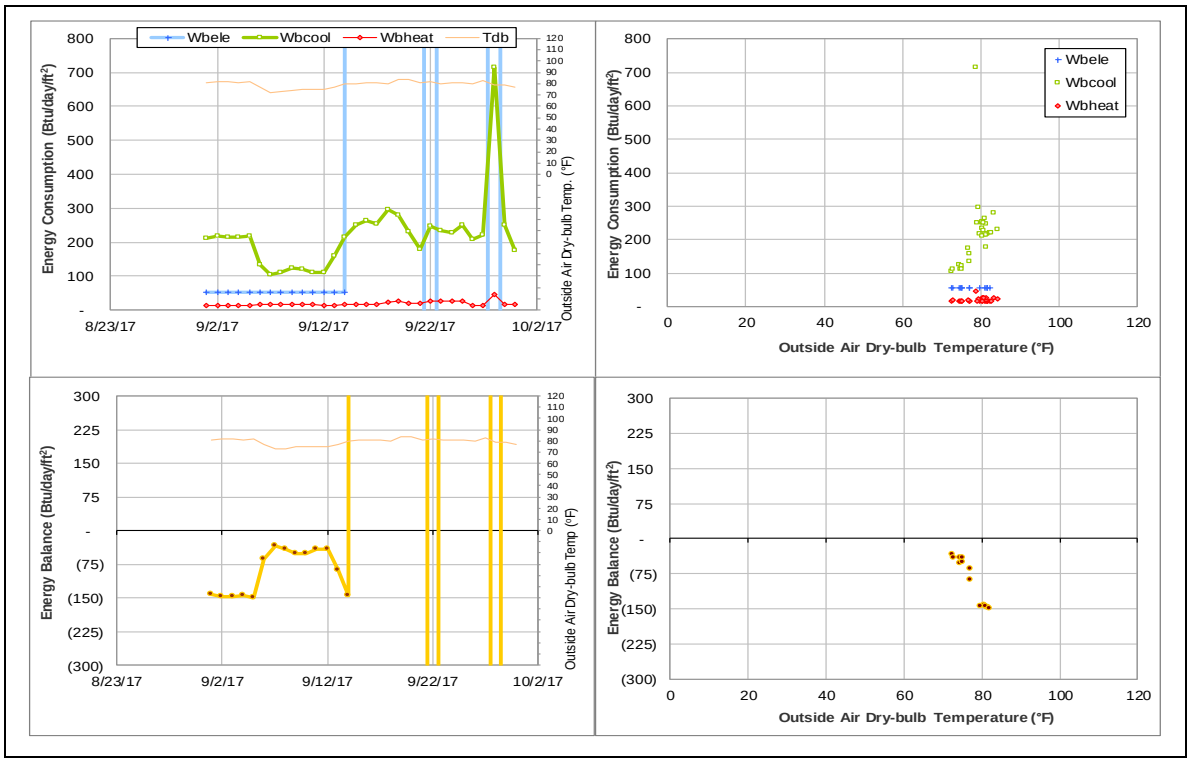
ELE MID's 009874 and 009875 have data available starting 9/15/2017. The data need to be scaled down by a factor of 1,000 to be at a normal level. There were also meter resets on 9/22/2017 and 9/28/2017 resulting negative monthly consumption values. The missing part of the current month is filled by taking average of the scaled down values of the available part.

The CHW MID 009964 and HHW MID 009965 have their data recovered from June 2017, but the data are incomplete and have occasional gaps. Following a missing period of 9/26/2017 – 9/27/2017, both CHW and HHW had one day of very high values. This day and the missing days are estimated by a linear model based on available data in August 2017.

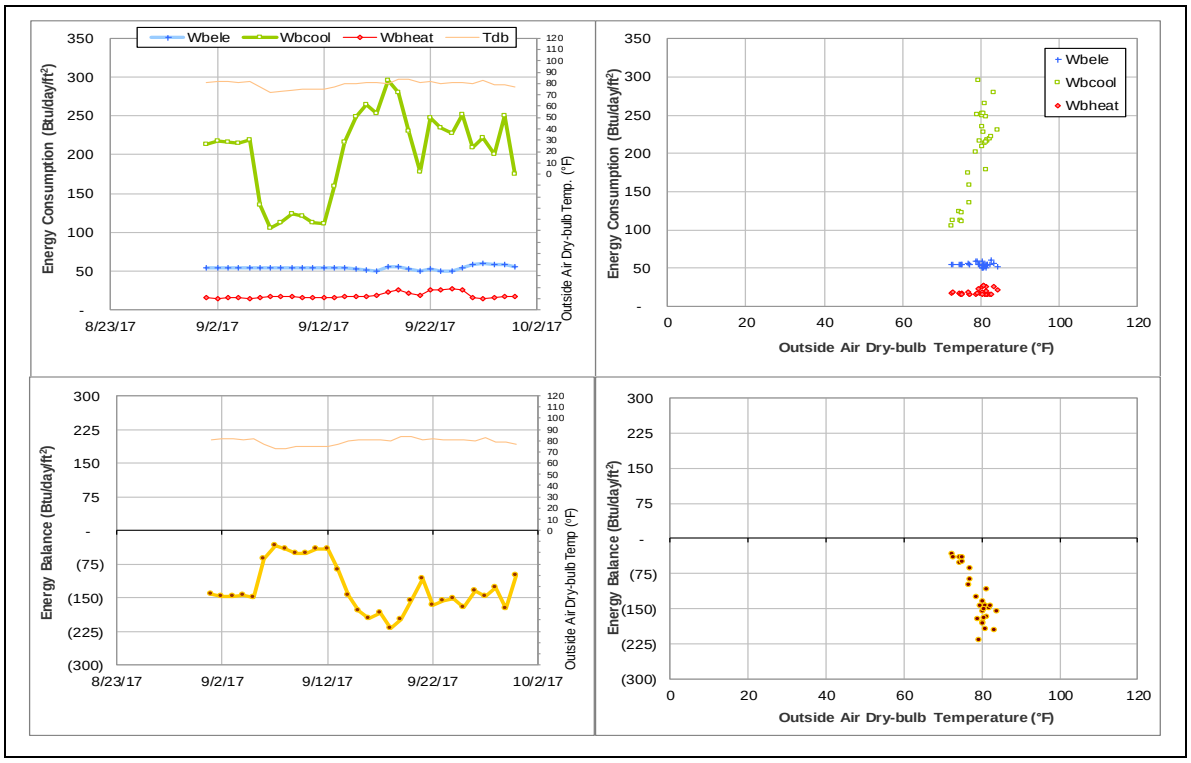
Explanatory Figure: 13 months energy balance plot with original data. ELE consumption has been scaled down.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Beutel Health Center (TAMU Bldg #520)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003933	30	9/1/2017 – 9/30/2017	Model
HHW	003944	6	9/25/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is higher than the level during the past year.	6/1/2017 – Ongoing
HHW	The consumption level has decreased suddenly.	9/25/2017 – Ongoing

Changes in sensor readings related to the detected issues

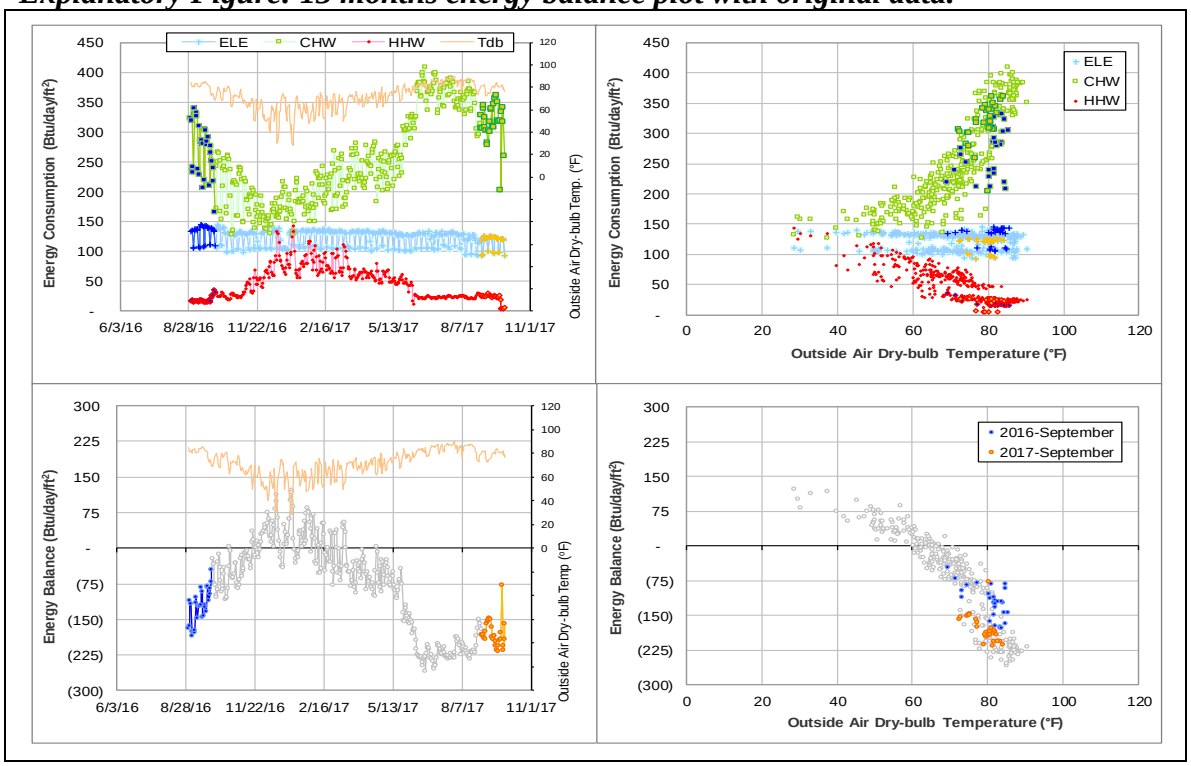
Energy Type	Meter ID	Period	Type	Description
HHW	003944	9/25/2017 – Ongoing	Flow rate	High
			Return temp	High

Quantitative descriptions and comments

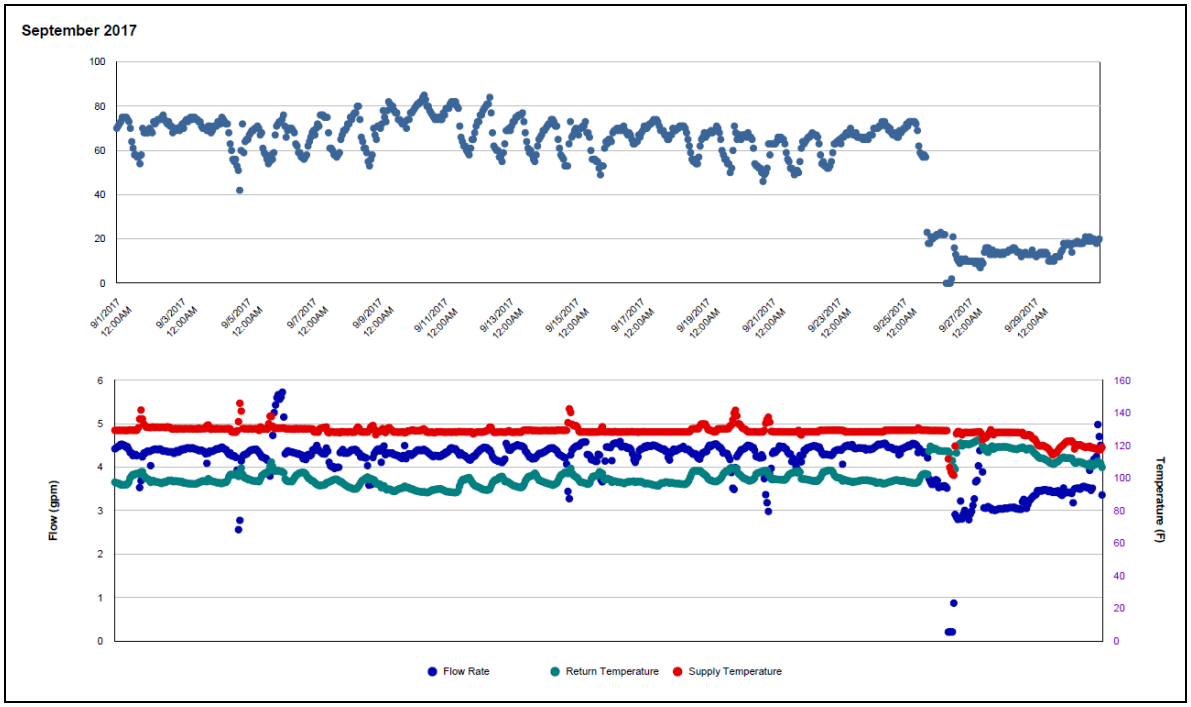
Since June 2017, CHW consumption increased to 50 – 100 Btu/day-ft² higher than the previous year. The consumption pattern of CHW no longer has a weekday/weekend difference. There is no obvious meter reading anomaly observed. The consumption of this month is estimated by model.

HHW flow rate and Delta-T decreased significantly on 6/25/2017 which resulted in continued low consumption. Note that this sudden decrease occurred earlier than the plant outage on 9/26/2017. The consumption of the affected days are estimated by model.

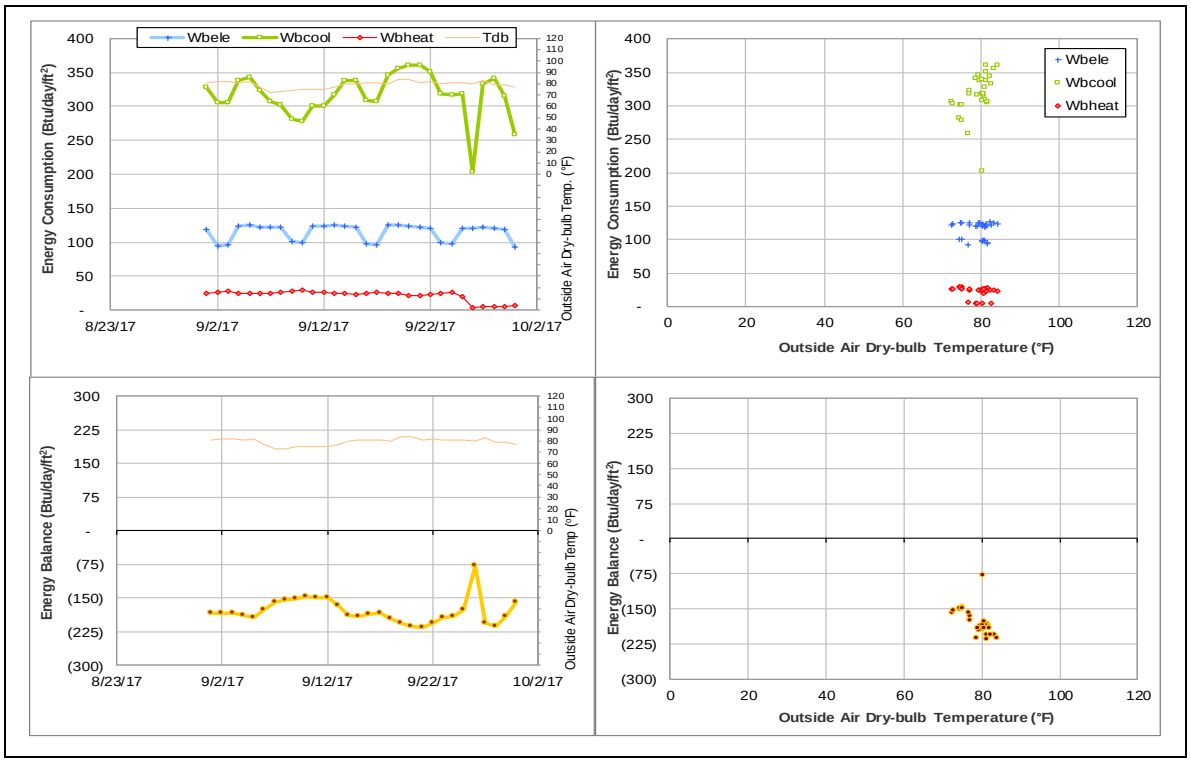
Explanatory Figure: 13 months energy balance plot with original data.



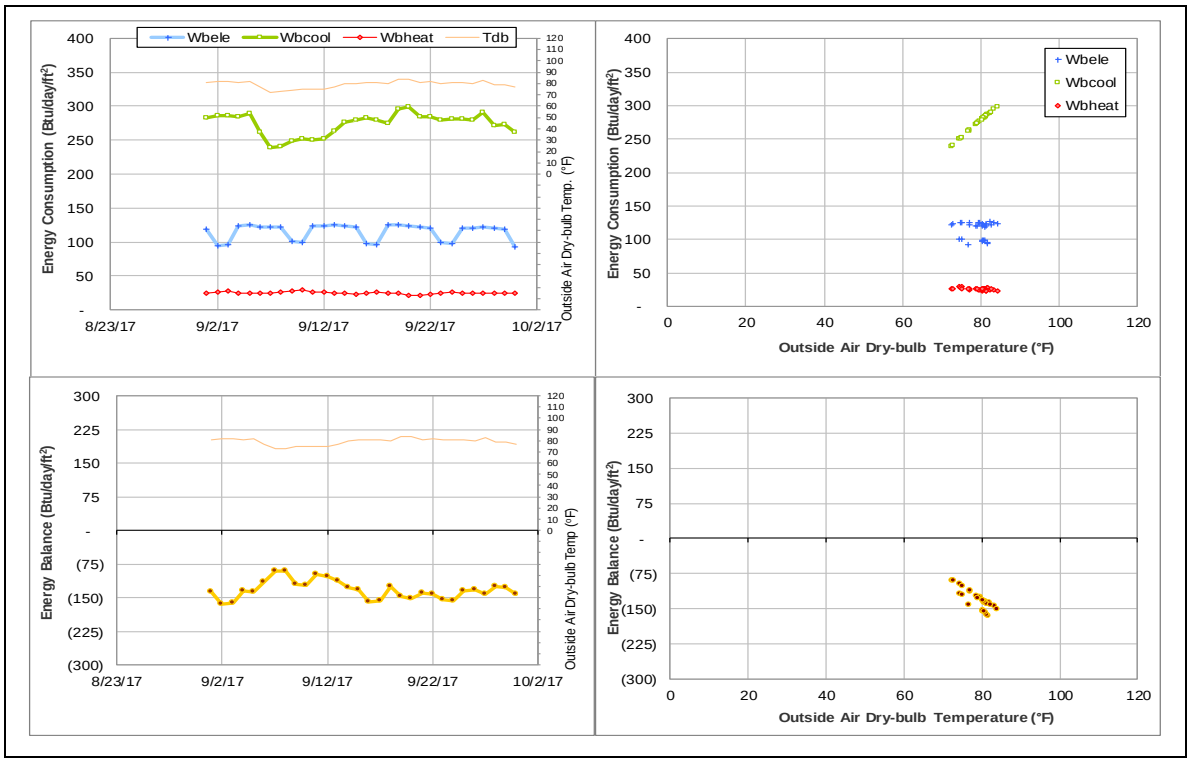
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Haas Residence Hall (TAMU Bldg #549)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002983	30	9/1/2017 – 9/30/2017	Model
HHW	002994	5	9/26/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is higher than the level during the past year.	7/22/2017 – Ongoing
HHW	The consumption level has decreased suddenly.	9/26/2017 – Ongoing

Changes in sensor readings related to the detected issues

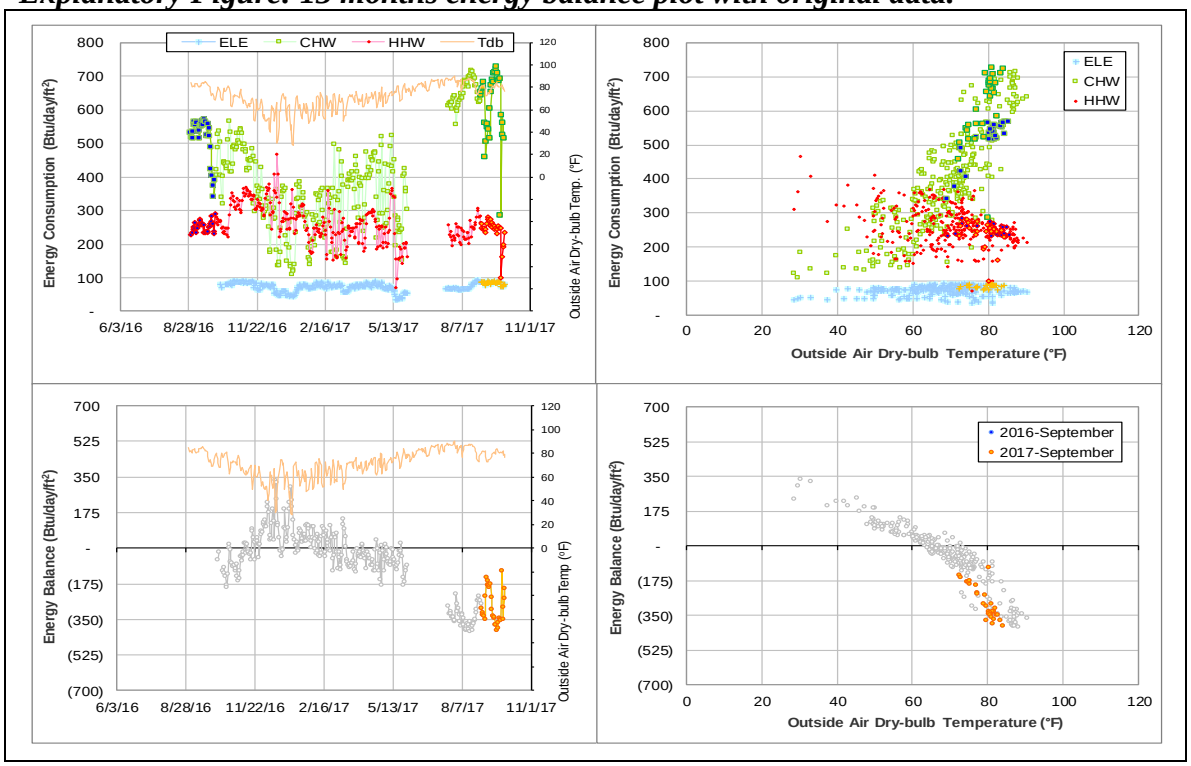
Energy Type	Meter ID	Period	Type	Description
CHW	002983	7/22/2017 – Ongoing	Delta-T	Higher
		9/26/2017 – Ongoing	Flow rate	Low
			Return temp	High
HHW	002994	9/26/2017 – Ongoing	Flow rate	Low
			Supply and return temp	Fluctuating

Quantitative descriptions and comments

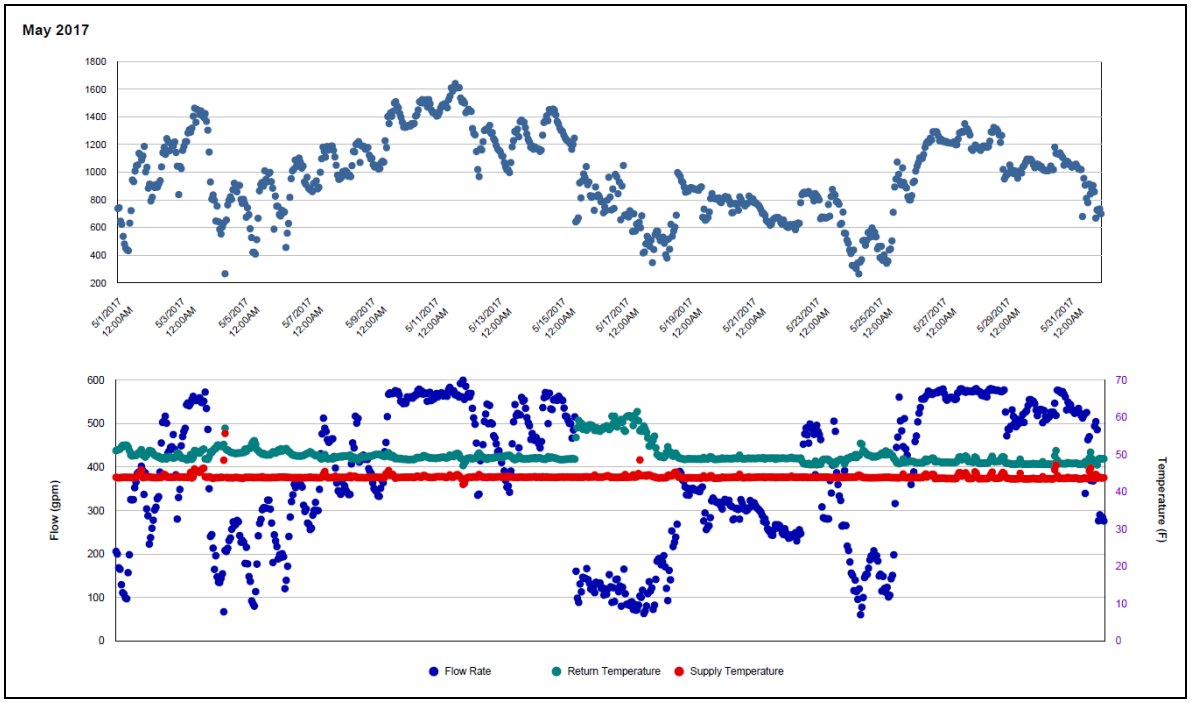
The data of this building were missing during 6/1/2017 – 7/21/2017. After the missing period, Delta-T of CHW became larger and the CHW became higher than the level in the previous year. However, the flow rate becomes more stable. The plant outage on 9/26/2016 cause one day of very low consumption and continued low flow rate with a slightly higher return temperature. However, the consumption pattern was not seen to be severely disturbed. The consumption of this month is estimated by model.

HHW flow rate decreased on 9/26/2017 which may have been caused by the plant outage. The flow rate is recovering gradually back to the normal level but is still low. The supply and return temperatures of HHW have been fluctuating after the incident but Delta-T remained relatively stable. The affected days are estimated by model.

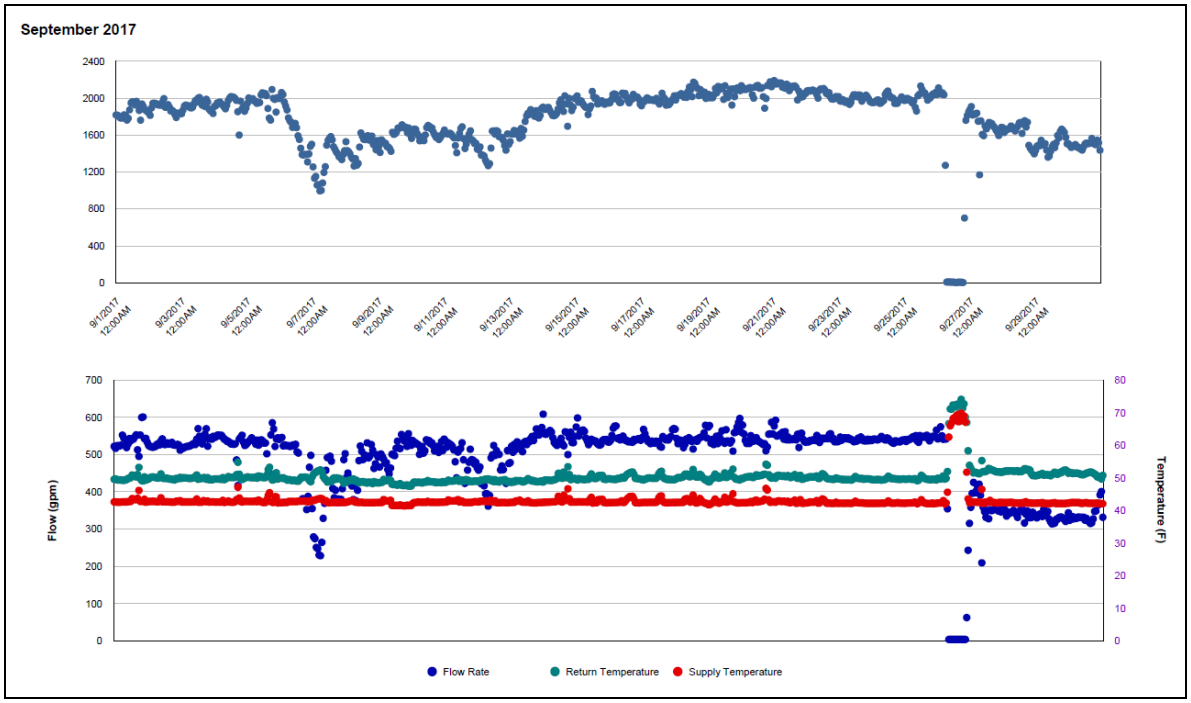
Explanatory Figure: 13 months energy balance plot with original data.



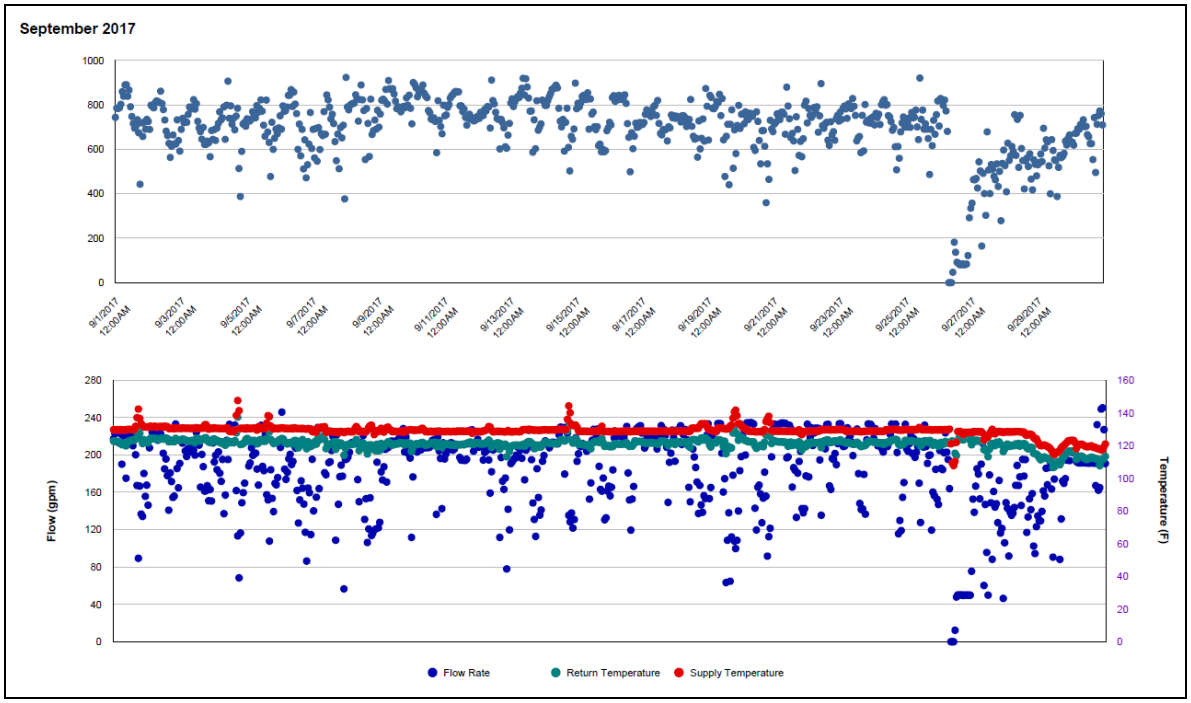
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during May 2017)



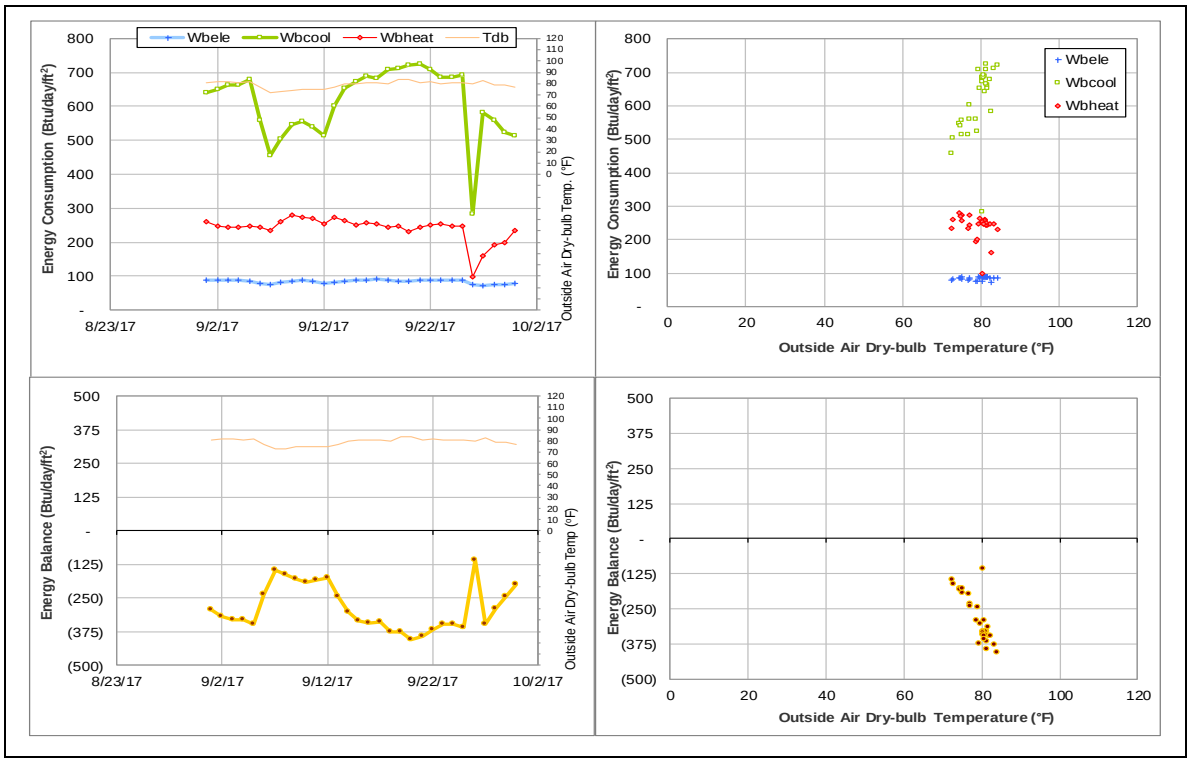
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during September 2017)



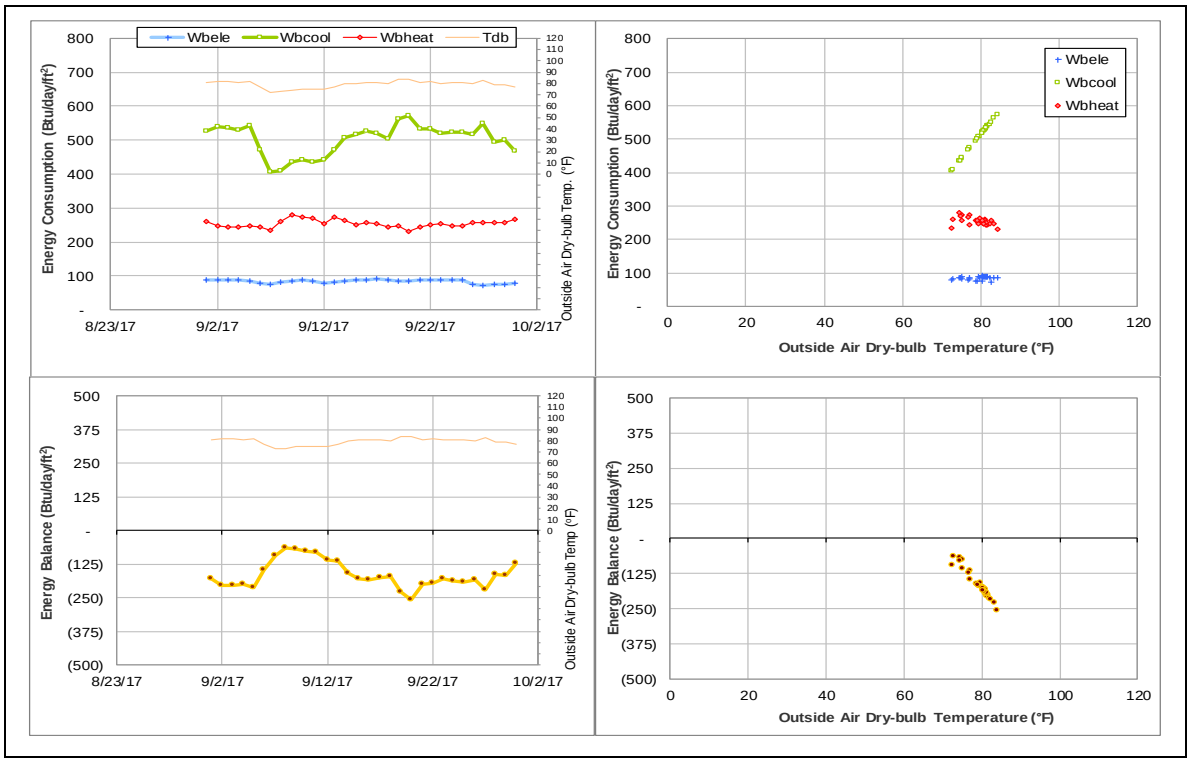
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Neeley Residence Hall (TAMU Bldg #652)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002151	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	8/20/2017 – Ongoing

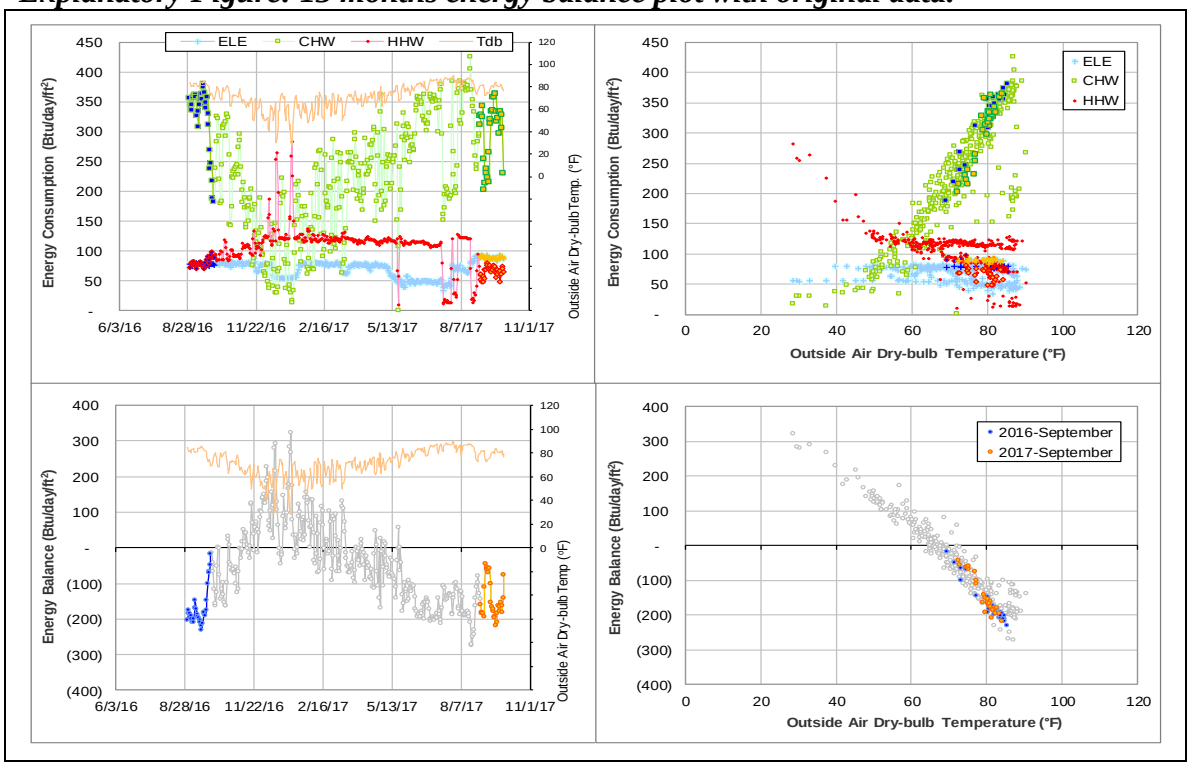
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002151	8/20/2017 – Ongoing	Flow rate	Low

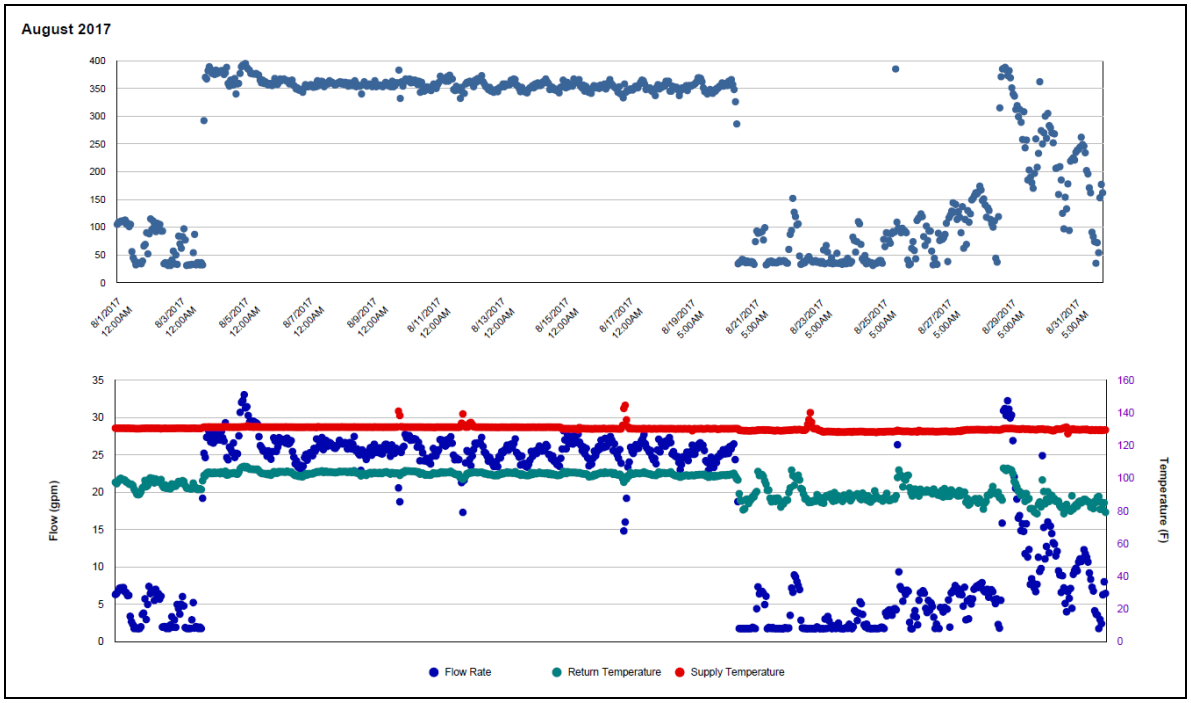
Quantitative descriptions and comments

HHW flow rate dropped from its normal rate of 22 – 27 gpm to 2 – 14 gpm since 8/20/2017. This month is estimated by model.

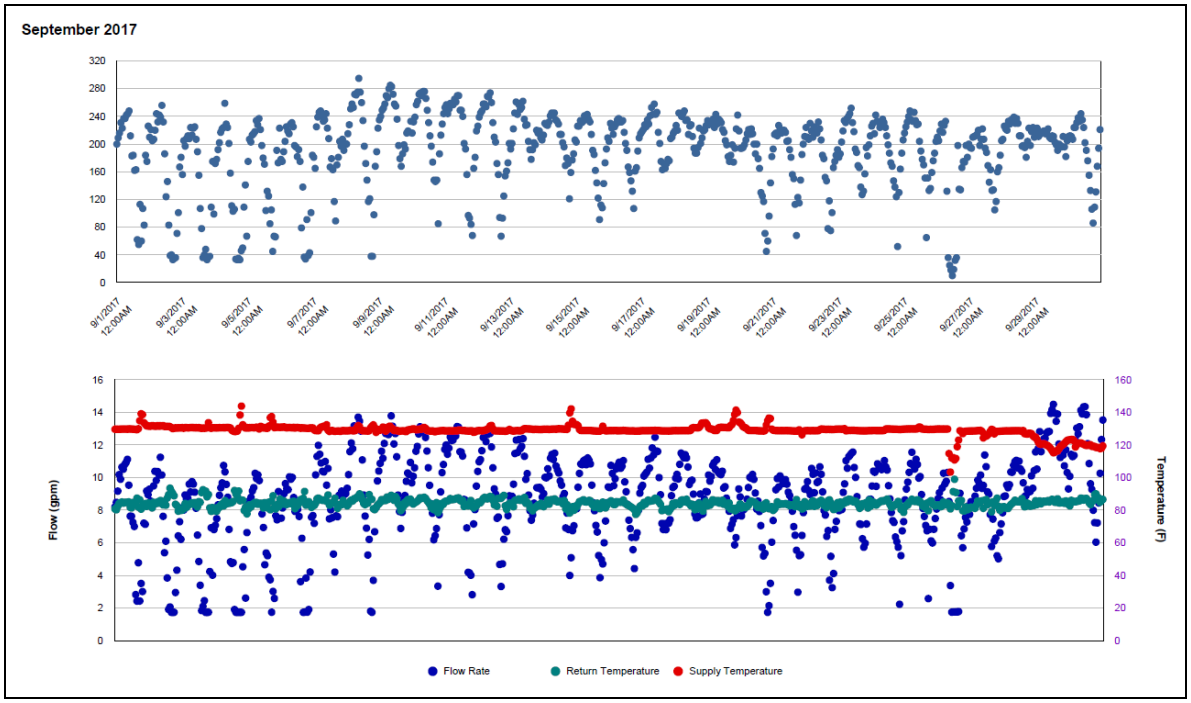
Explanatory Figure: 13 months energy balance plot with original data.



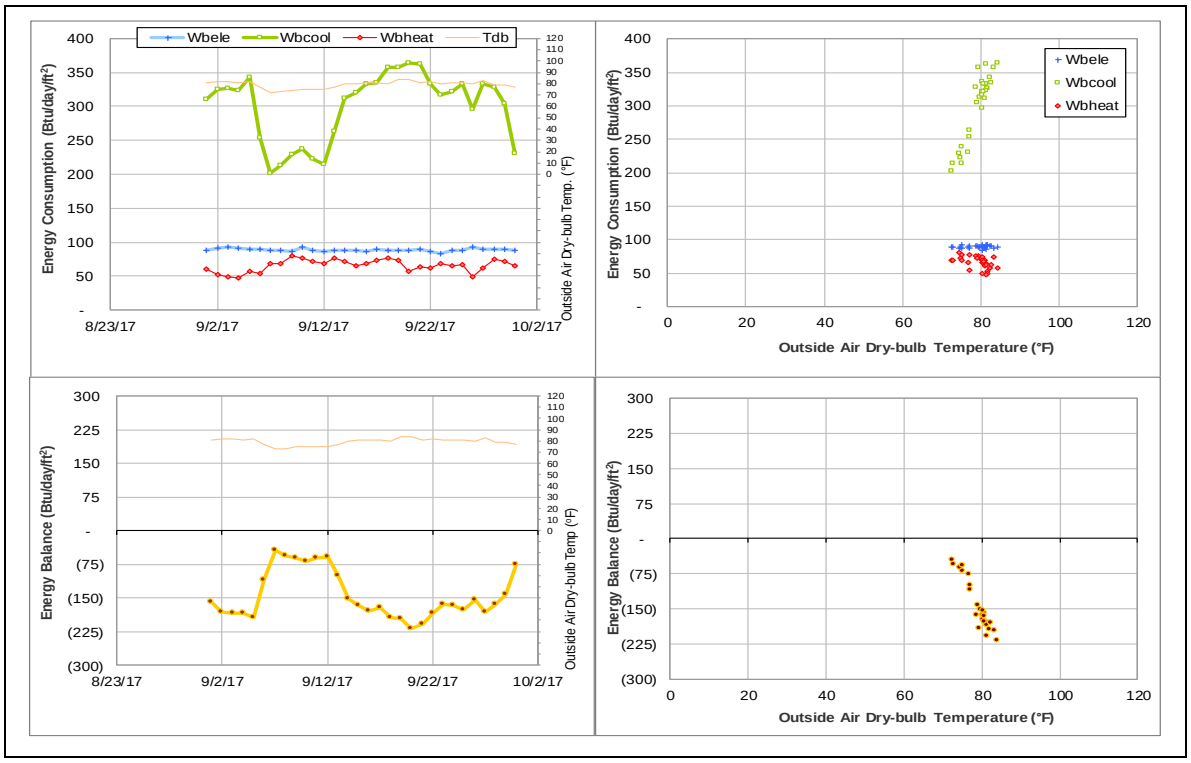
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during August 2017)



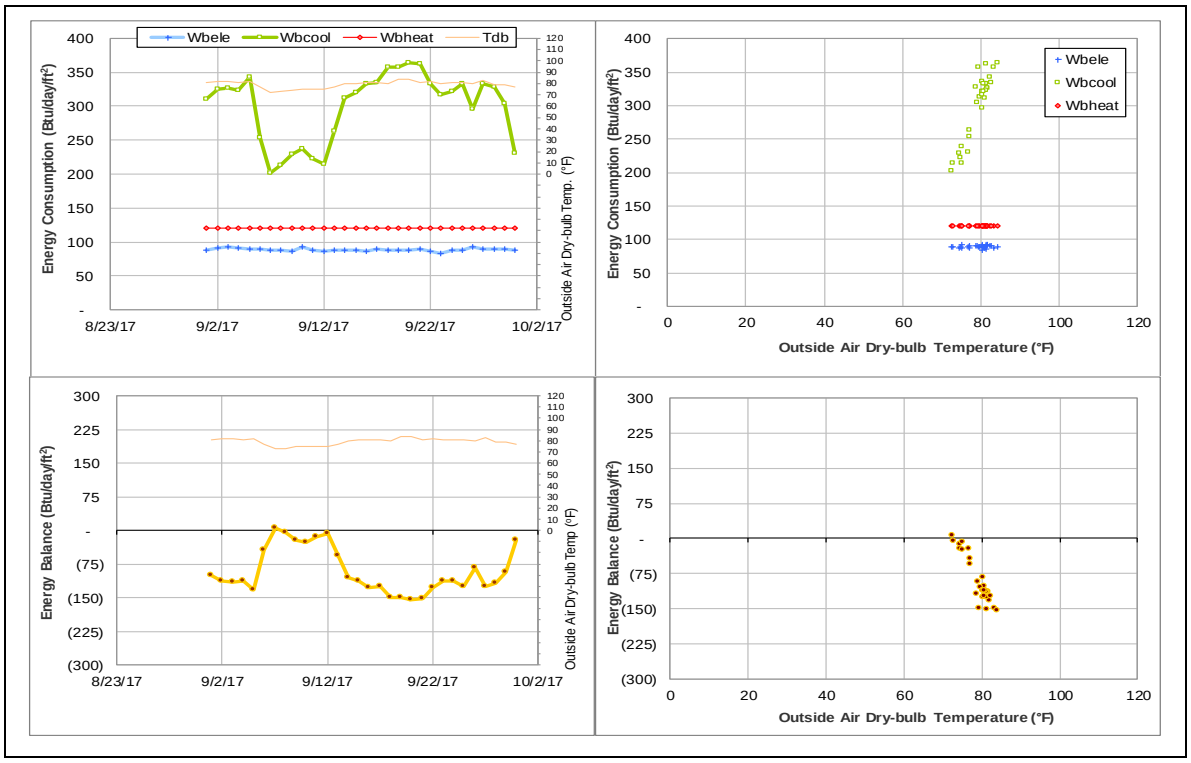
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Entomology Research Lab (TAMU Bldg #815)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005799	30	9/1/2017 – 9/30/2017	Model
CHW	006043	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption level is lower than the level during the past year. The consumption level is decreasing gradually.	9/1/2017 – Ongoing
CHW	The consumption level is lower than the level during the past year. The consumption level is decreasing gradually.	6/7/2017 – Ongoing

Changes in sensor readings related to the detected issues

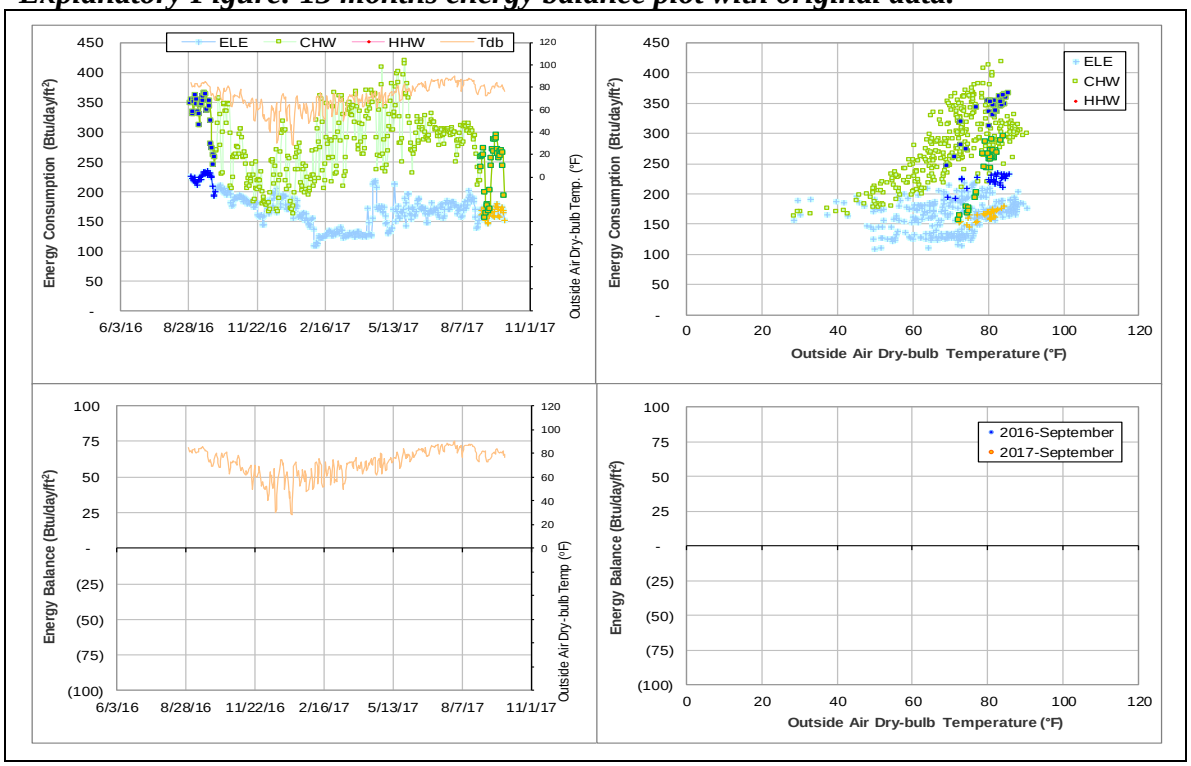
Energy Type	Meter ID	Period	Type	Description
CHW	006043	6/7/2017 – Ongoing	Flow rate	Low

Quantitative descriptions and comments

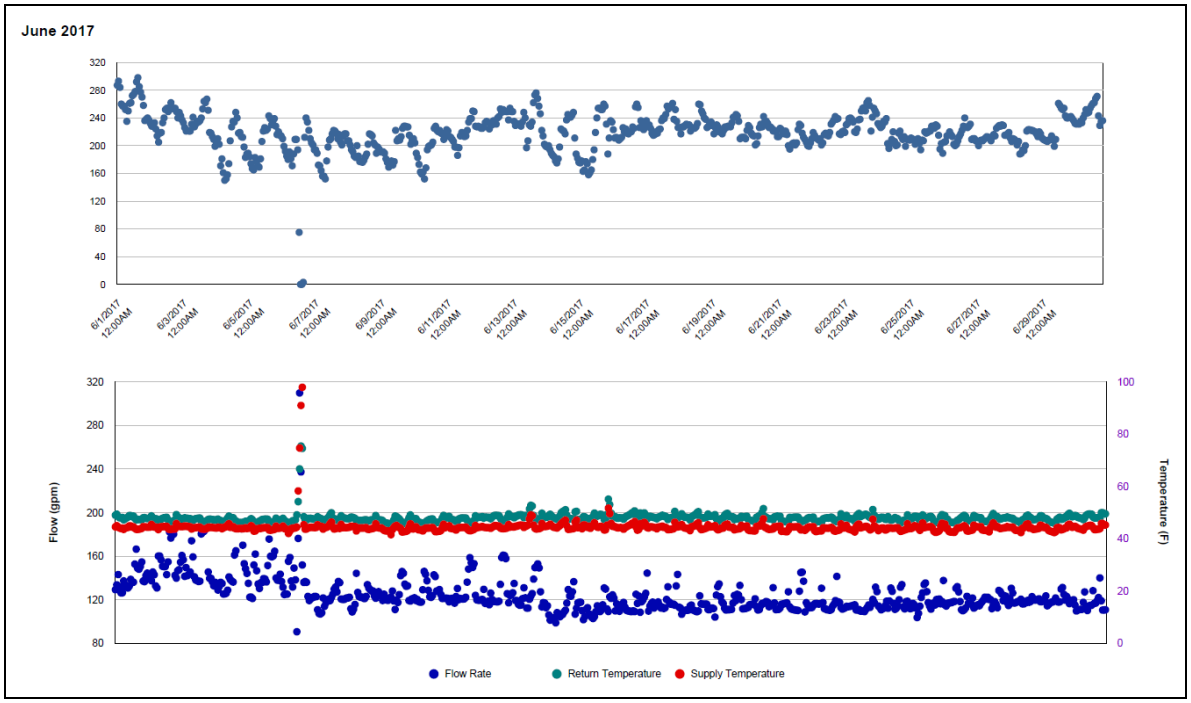
ELE consumption of this building fell to a lower level since 9/1/2017. There appears to be two stable levels in ELE pattern, but the consumption does not fall in a certain level during a certain season in each year. Consumption of this month is estimated by model.

CHW flow rate decreased from 120 – 150 gpm to 105 – 125 gpm on 6/7/2017. The consumption has not been seen to be significantly lower than normal until this month. Consumption of this month is estimated by model.

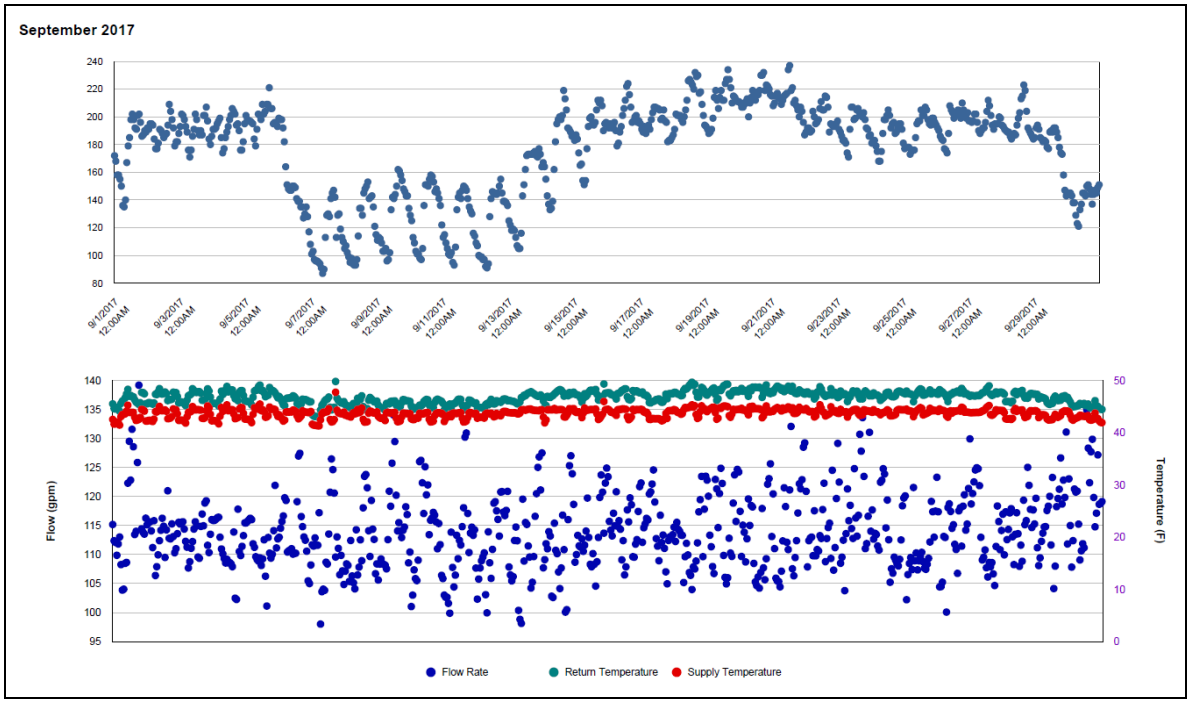
Explanatory Figure: 13 months energy balance plot with original data.



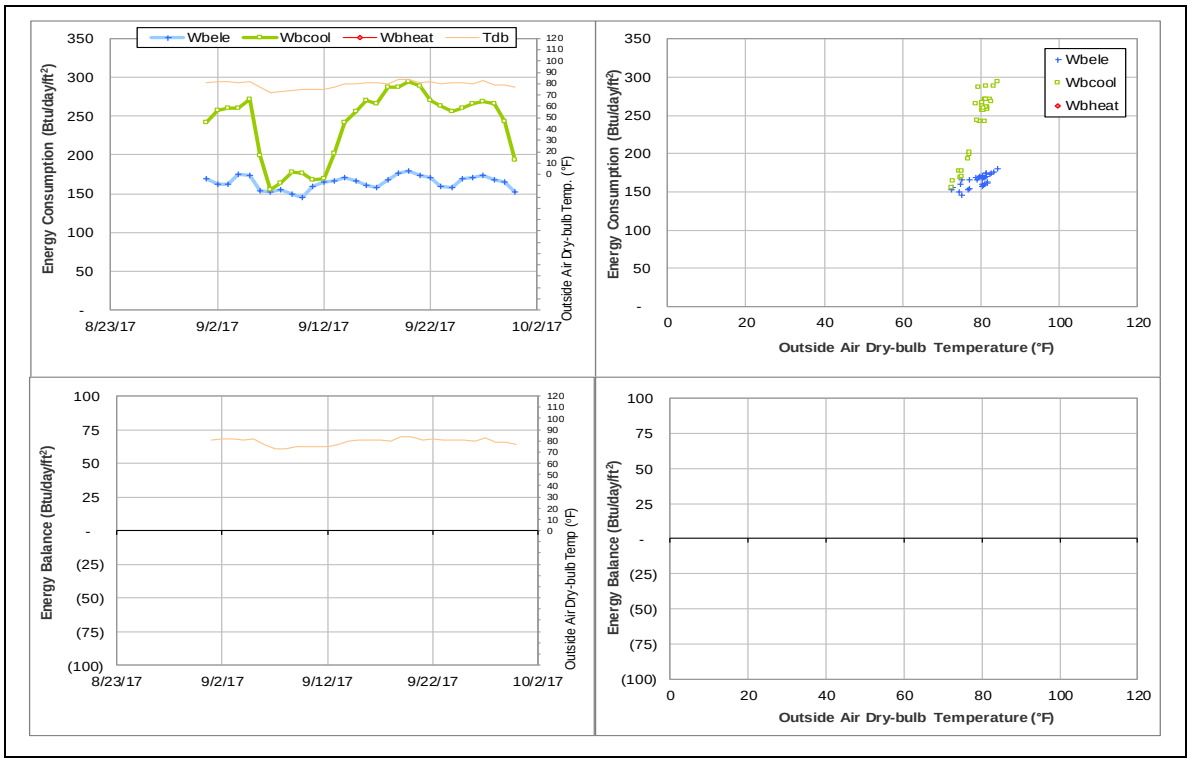
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during June 2017)



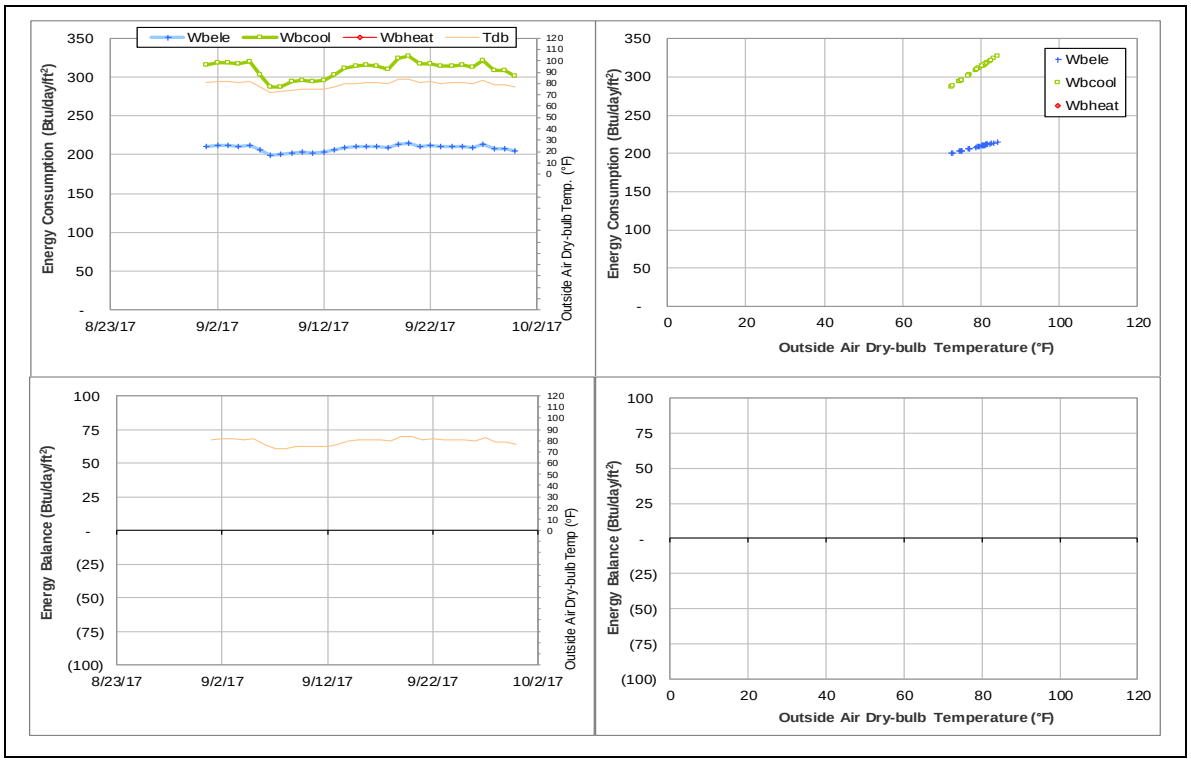
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Kleberg Center (TAMU Bldg #1501)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002628	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level is decreasing gradually. The consumption level is lower than the level during the past year.	7/12/2017 – Ongoing

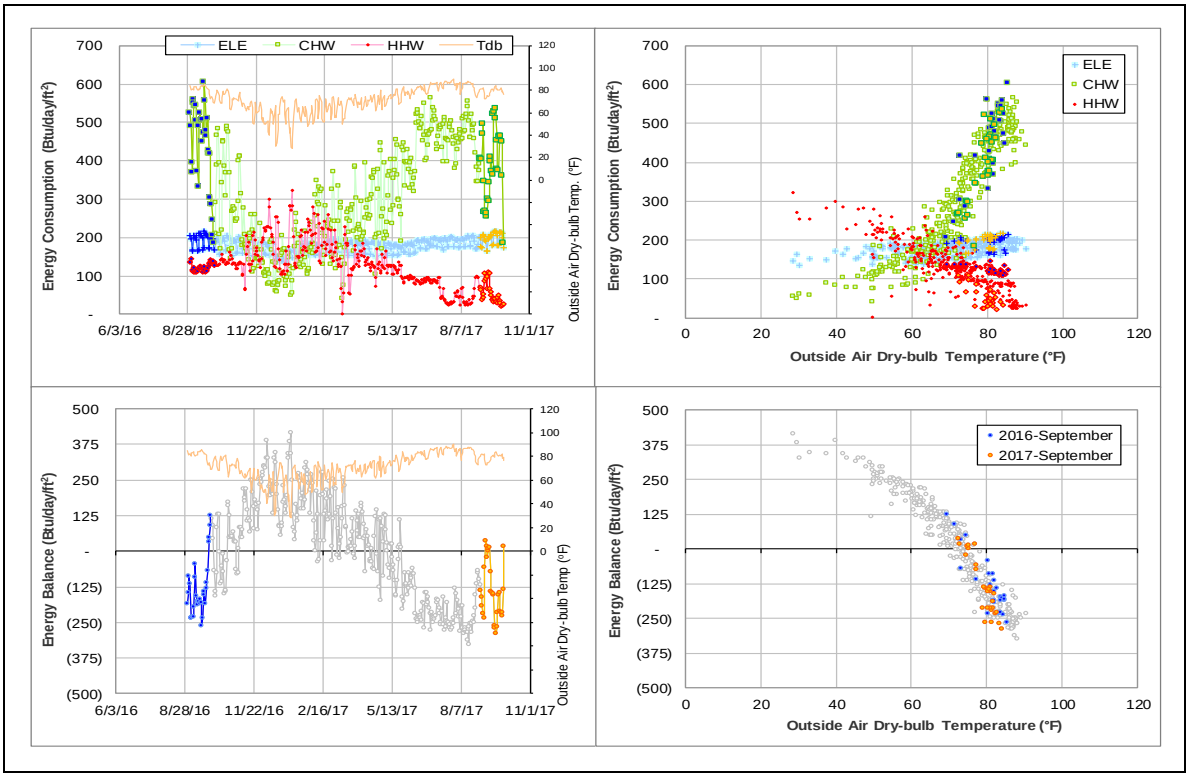
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002628	7/12/2017 – Ongoing	Flow rate	Low

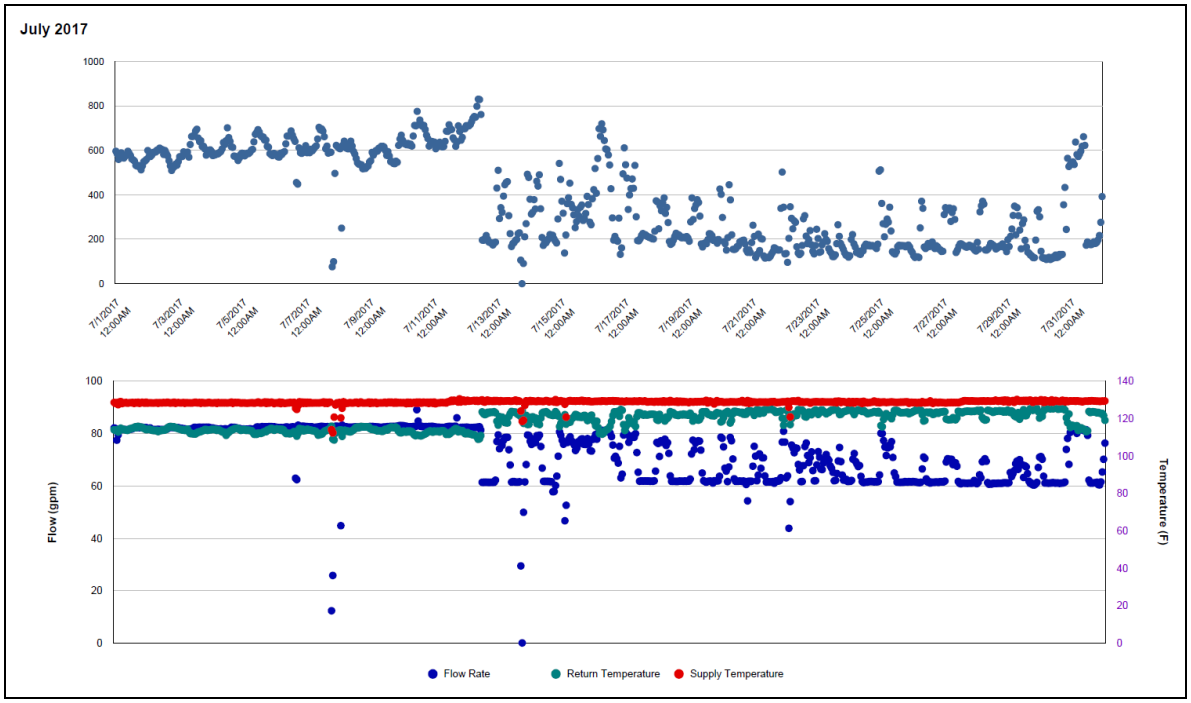
Quantitative descriptions and comments

HHW flow rate decreased from about 80 gpm to 60 – 80 gpm since 7/12/2017. This month is estimated by model.

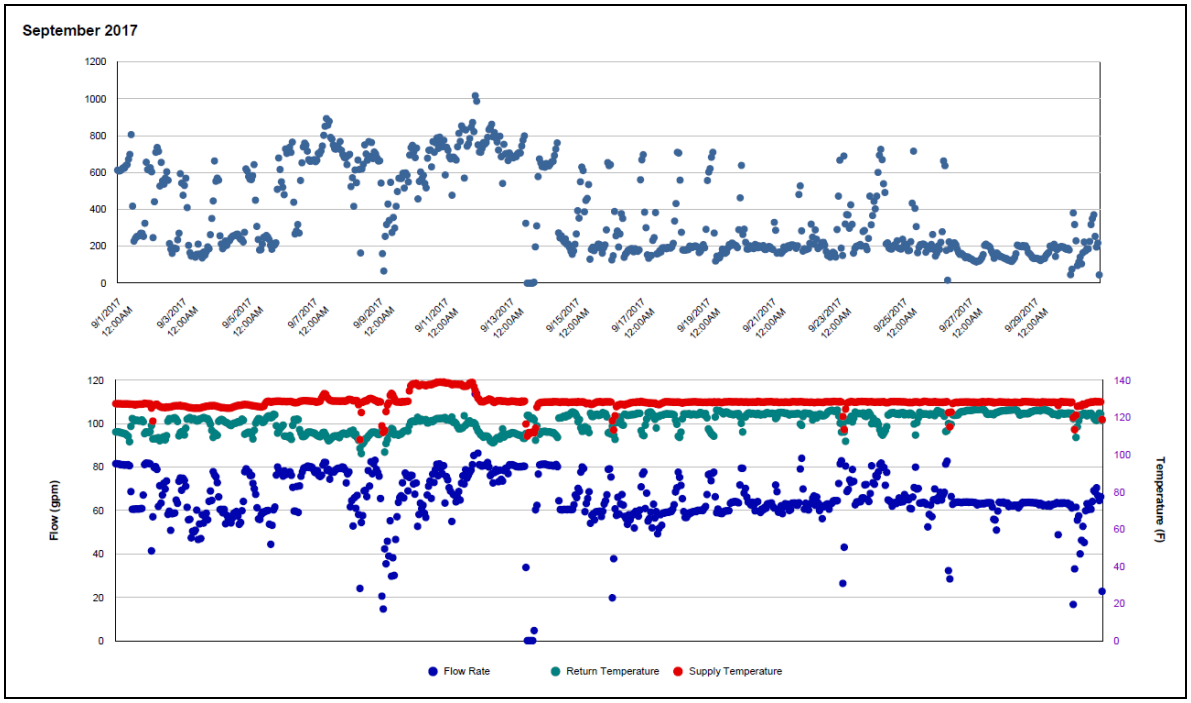
Explanatory Figure: 13 months energy balance plot with original data



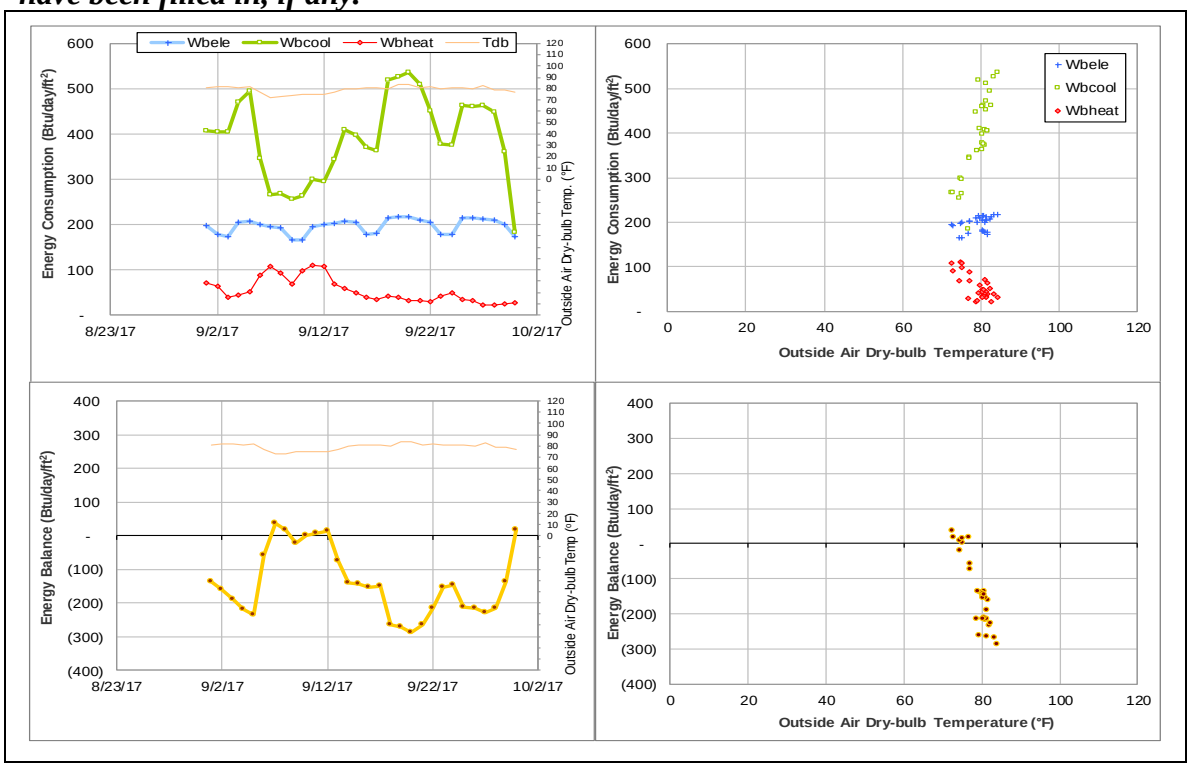
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during July 2017)



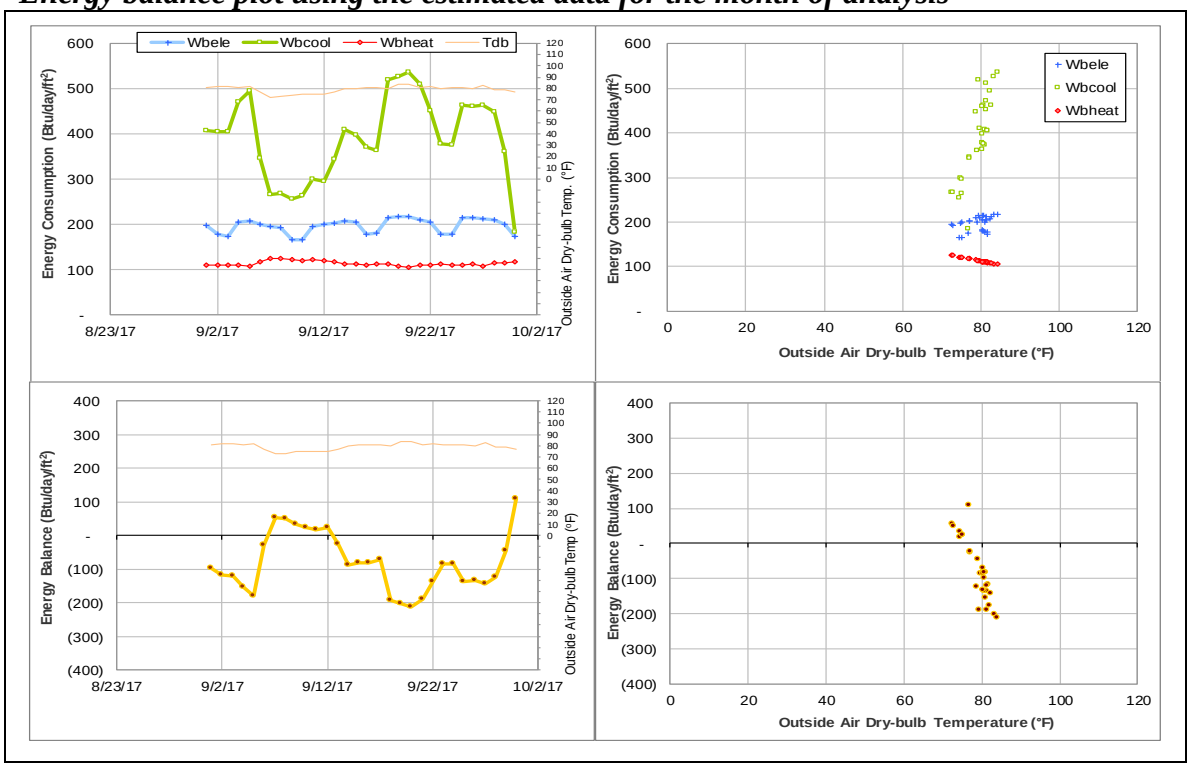
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Southern Crop Improvement Greenhouse (TAMU Bldg #1512)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005931	30	9/1/2017 – 9/30/2017	Model

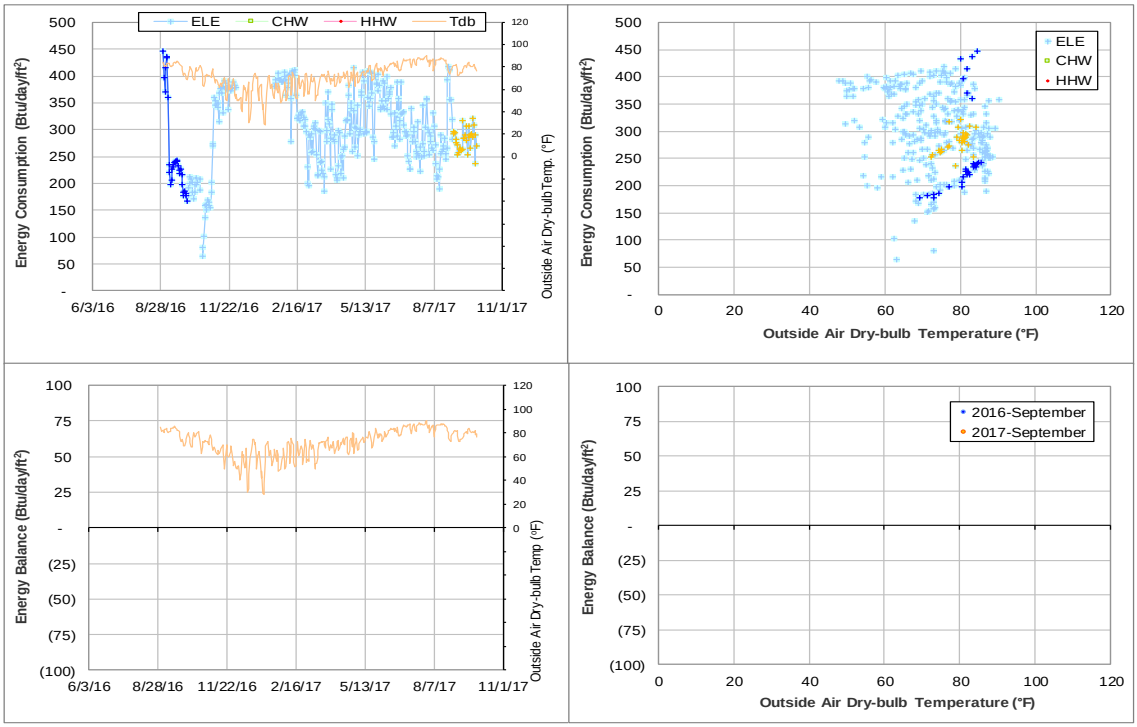
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The ELE consumption increased.	1/19/2017 – Ongoing

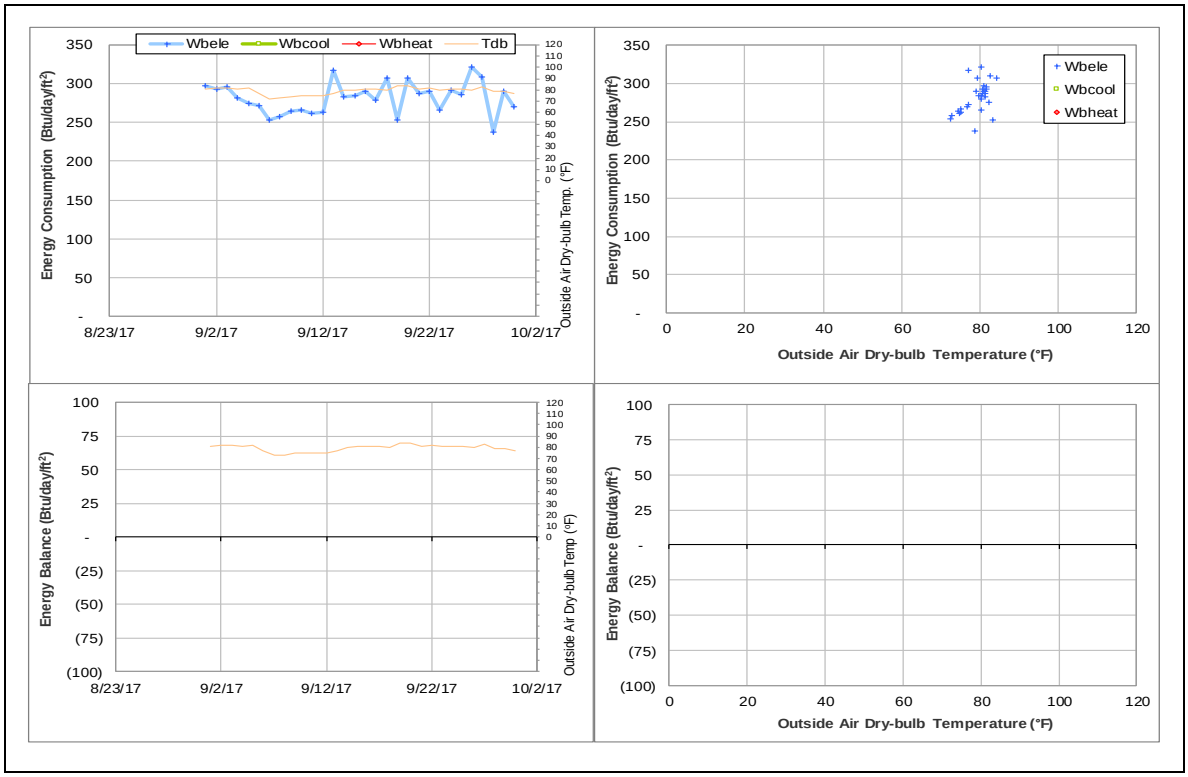
Quantitative descriptions and comments

The ELE consumption level has changed frequently since July 2015 as shown in the time series. During the period of 1/22/2017 – 2/15/2017 it increased to the higher consumption pattern but then dropped again. The ELE consumption is estimated using a model based on data during 7/1/2014 – 6/30/2015 when the consumption was stable.

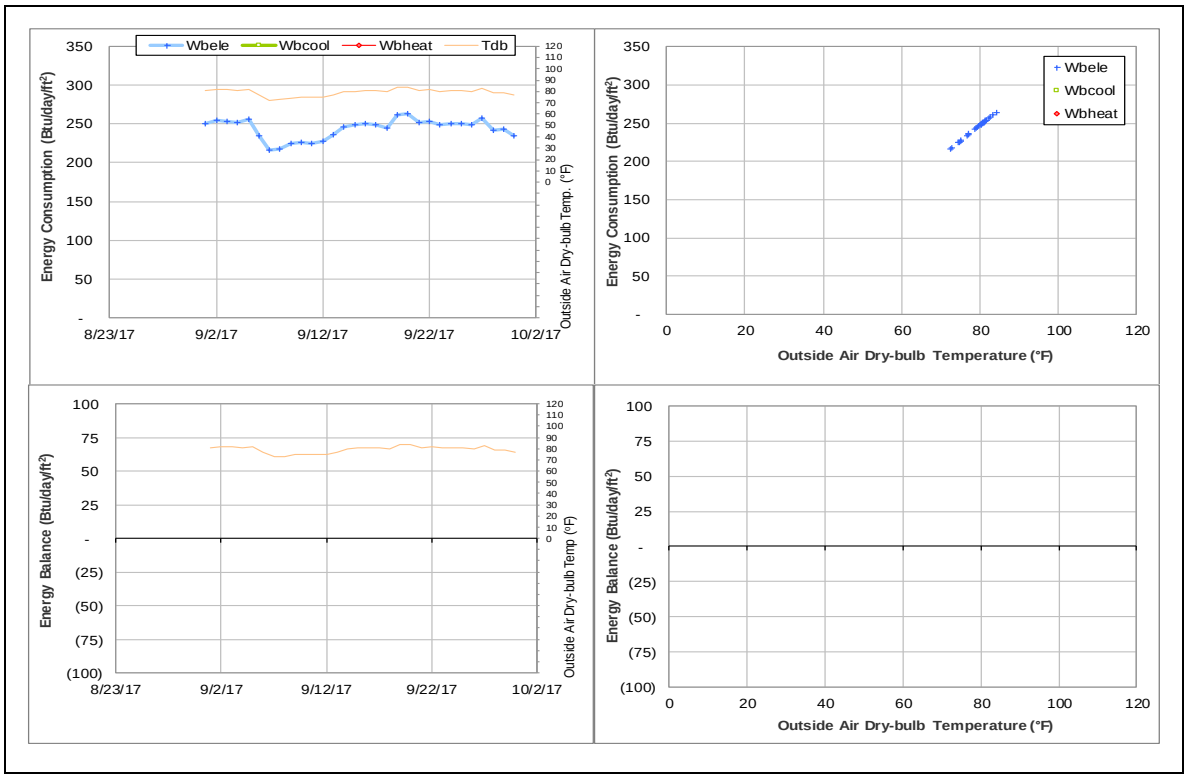
Explanatory Figure: 13 months energy balance plot with original data



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



TX School of Rural Public Health (TAMU Bldg # 1518, 1519, 1520)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005274	30	9/1/2017 – 9/30/2017	Switch with 005275
ELE	005275	30	9/1/2017 – 9/30/2017	Switch with 005274

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE (005274)	The consumption level increased largely.	8/14/2015 - ongoing
ELE (005275)	The consumption level decreased largely.	8/14/2015 - ongoing

Comments

ELE meter ID# 005274 serves TX School of Rural Public Health B and ELE meter ID# 005275 is for TX School of Rural Public Health C.

The ELE consumption levels for these two meters had a sudden change on 8/14/2015. The consumption level for meter ID# 005274 increased by approximate 80 kWh/h (~ 100%) and the consumption level for meter ID# 005275 decreased by around 80 kWh/h (~50%). The change observed on 8/14/2015 12:00 AM (see below explanatory figure) suggests that the two meters were switched and may need to be investigated.

Explanatory Figure: The time series plot of hourly electricity consumption for two ELE meters #005274 and# 005275

Time	Cumulative reading	Hourly Consumption	MeterID		Time	Cumulative reading	Hourly Consumption	MeterID
08/13/2015 12:00:00 PM	2930884.013	84.262	005274		08/13/2015 12:00:00 PM	4741958.002	170.658	005275
08/13/2015 01:00:00 PM	2930968.589	84.576	005274		08/13/2015 01:00:00 PM	4742132.336	174.334	005275
08/13/2015 02:00:00 PM	2931051.959	83.37	005274		08/13/2015 02:00:00 PM	4742303.554	171.218	005275
08/13/2015 03:00:00 PM	2931146.799	94.84	005274		08/13/2015 03:00:00 PM	4742483.683	180.129	005275
08/13/2015 04:00:00 PM	2931240.505	93.706	005274		08/13/2015 04:00:00 PM	4742662.753	179.07	005275
08/13/2015 05:00:00 PM	2931324.169	83.664	005274		08/13/2015 05:00:00 PM	4742832.009	169.256	005275
08/13/2015 06:00:00 PM	2931399.91	75.741	005274		08/13/2015 06:00:00 PM	4742993.53	161.521	005275
08/13/2015 07:00:00 PM	2931472.181	72.271	005274		08/13/2015 07:00:00 PM	4743149.675	156.145	005275
08/13/2015 08:00:00 PM	2931543.838	71.657	005274		08/13/2015 08:00:00 PM	4743305.9	156.225	005275
08/13/2015 09:00:00 PM	2931613.306	69.468	005274		08/13/2015 09:00:00 PM	4743462.097	156.197	005275
08/13/2015 10:00:00 PM	2931672.706	59.4	005274		08/13/2015 10:00:00 PM	4743610.221	148.124	005275
08/13/2015 11:00:00 PM	2931733.072	60.366	005274		08/13/2015 11:00:00 PM	4743745.645	135.424	005275
08/14/2015 12:00:00 AM	4743876.03	130.385	005274		08/14/2015 12:00:00 AM	2931791.19	58.118	005275
08/14/2015 01:00:00 AM	4744008.406	132.376	005274		08/14/2015 01:00:00 AM	2931849.35	58.16	005275
08/14/2015 02:00:00 AM	4744141.74	133.334	005274		08/14/2015 02:00:00 AM	2931908.534	59.184	005275
08/14/2015 03:00:00 AM	4744272.553	130.813	005274		08/14/2015 03:00:00 AM	2931966.686	58.152	005275
08/14/2015 04:00:00 AM	4744404.045	131.492	005274		08/14/2015 04:00:00 AM	2932023.589	56.903	005275
08/14/2015 05:00:00 AM	4744534.38	130.335	005274		08/14/2015 05:00:00 AM	2932080.05	56.461	005275
08/14/2015 06:00:00 AM	4744667.111	132.731	005274		08/14/2015 06:00:00 AM	2932137.05	57	005275
08/14/2015 07:00:00 AM	4744820.038	152.927	005274		08/14/2015 07:00:00 AM	2932232.983	95.933	005275
08/14/2015 08:00:00 AM	4744972.221	152.183	005274		08/14/2015 08:00:00 AM	2932319.162	86.179	005275
08/14/2015 09:00:00 AM	4745134.467	162.246	005274		08/14/2015 09:00:00 AM	2932404.691	85.529	005275
08/14/2015 10:00:00 AM	4745308.905	174.438	005274		08/14/2015 10:00:00 AM	2932489.976	85.285	005275
08/14/2015 11:00:00 AM	4745476.832	167.927	005274		08/14/2015 11:00:00 AM	2932564.419	74.443	005275
08/14/2015 12:00:00 PM	4745634.44	157.608	005274		08/14/2015 12:00:00 PM	2932634.064	69.645	005275
08/14/2015 01:00:00 PM	4745789.345	154.905	005274		08/14/2015 01:00:00 PM	2932704.723	70.659	005275
08/14/2015 02:00:00 PM	4745949.369	160.024	005274		08/14/2015 02:00:00 PM	2932777.373	72.65	005275
08/14/2015 03:00:00 PM	4746110.346	160.977	005274		08/14/2015 03:00:00 PM	2932845.908	68.535	005275
08/14/2015 04:00:00 PM	4746270.903	160.557	005274		08/14/2015 04:00:00 PM	2932920.525	74.617	005275
08/14/2015 05:00:00 PM	4746431.347	160.444	005274		08/14/2015 05:00:00 PM	2932996.835	76.31	005275
08/14/2015 06:00:00 PM	4746586.415	155.068	005274		08/14/2015 06:00:00 PM	2933065.518	68.683	005275
08/14/2015 07:00:00 PM	4746727.476	141.061	005274		08/14/2015 07:00:00 PM	2933127.559	62.041	005275
08/14/2015 08:00:00 PM	4746864.372	136.896	005274		08/14/2015 08:00:00 PM	2933195.384	67.825	005275
08/14/2015 09:00:00 PM	4747004.372	140	005274		08/14/2015 09:00:00 PM	2933263.632	68.248	005275
08/14/2015 10:00:00 PM	4747137.886	133.514	005274		08/14/2015 10:00:00 PM	2933323.26	59.628	005275
08/14/2015 11:00:00 PM	4747269.569	131.683	005274		08/14/2015 11:00:00 PM	2933382.3	59.04	005275

AgriLife Services Building (TAMU Bldg #1536)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	007573	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has increased suddenly.	7/17/2017 – Ongoing

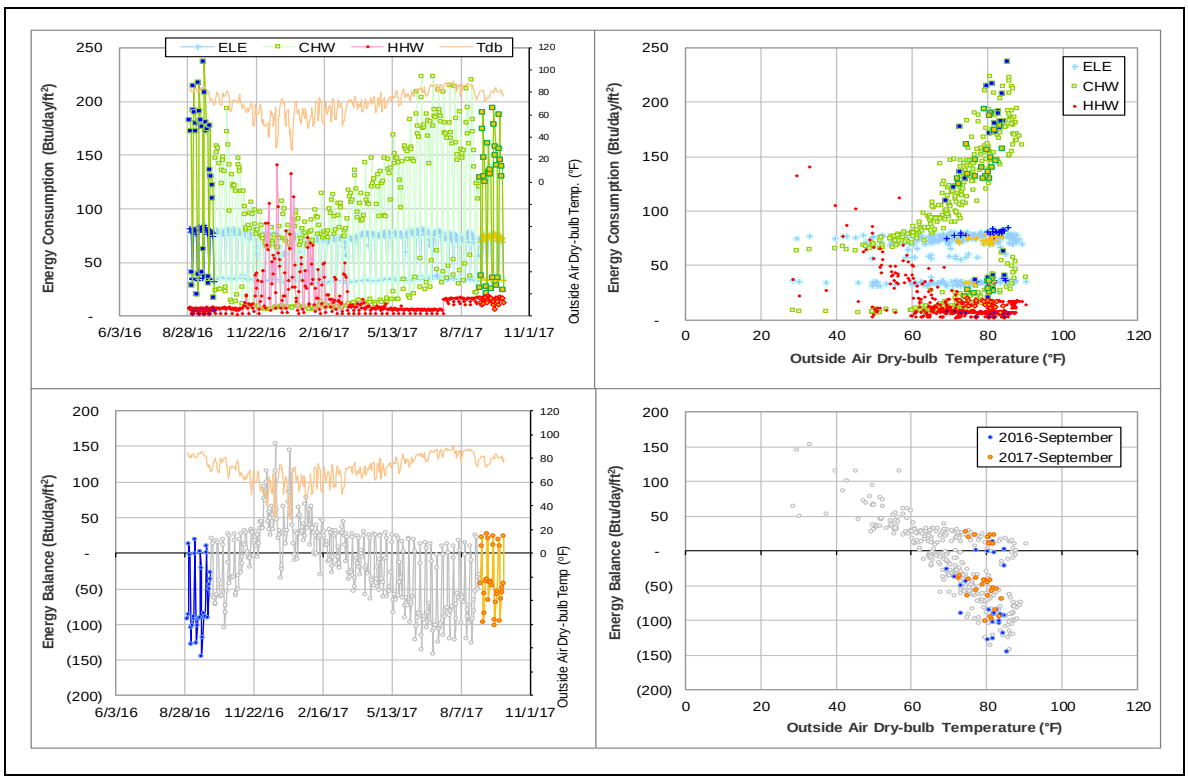
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	007573	7/17/2017 – Ongoing	Flow rate	Increase
			Delta-T	Decrease

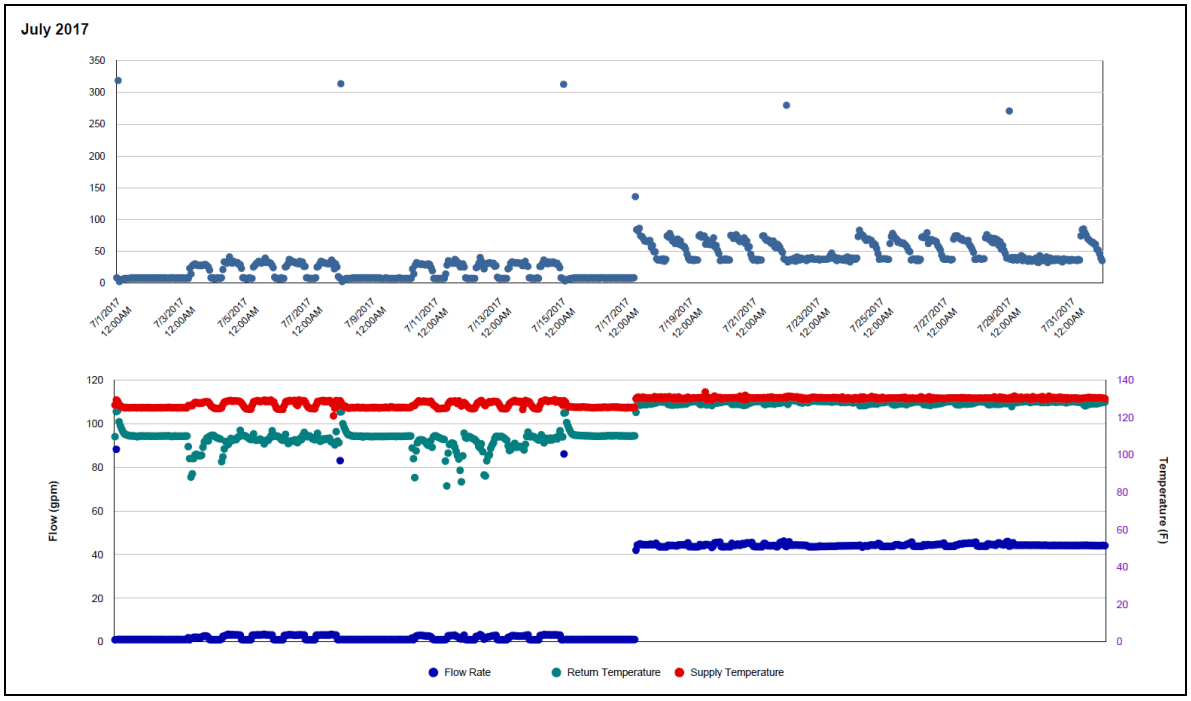
Quantitative descriptions and comments

On 7/17/2017, The flow of HHW suddenly increased from a near zero level to slightly higher than 40 gpm. Delta-T significantly decreased at the same time. The combined effect is a sudden increase of HHW consumption. These days are estimated by model.

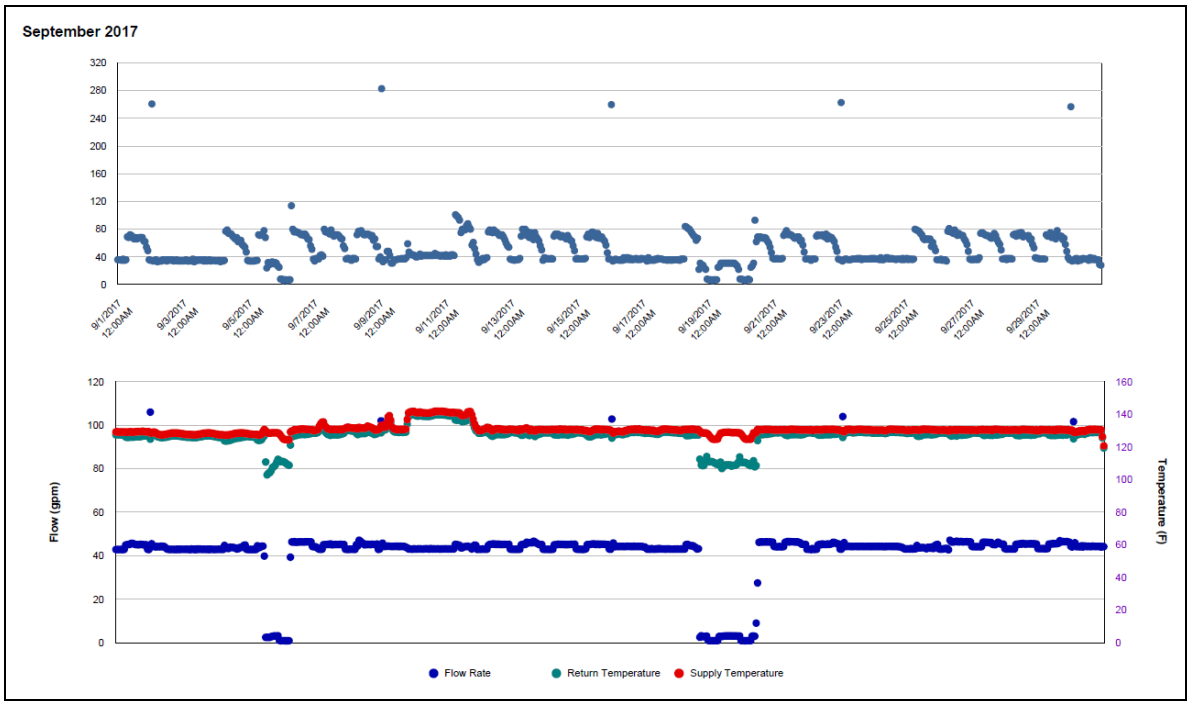
Explanatory Figure: 13 months energy balance plot with original data.



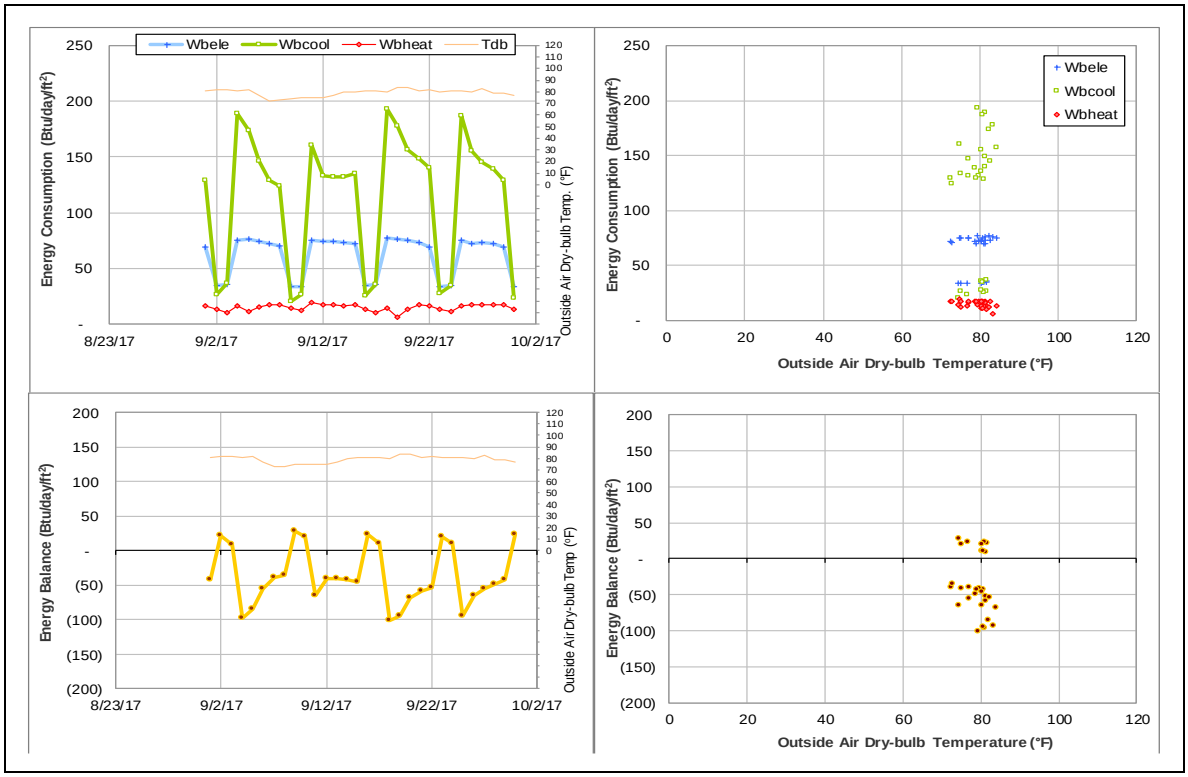
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during July 2017)



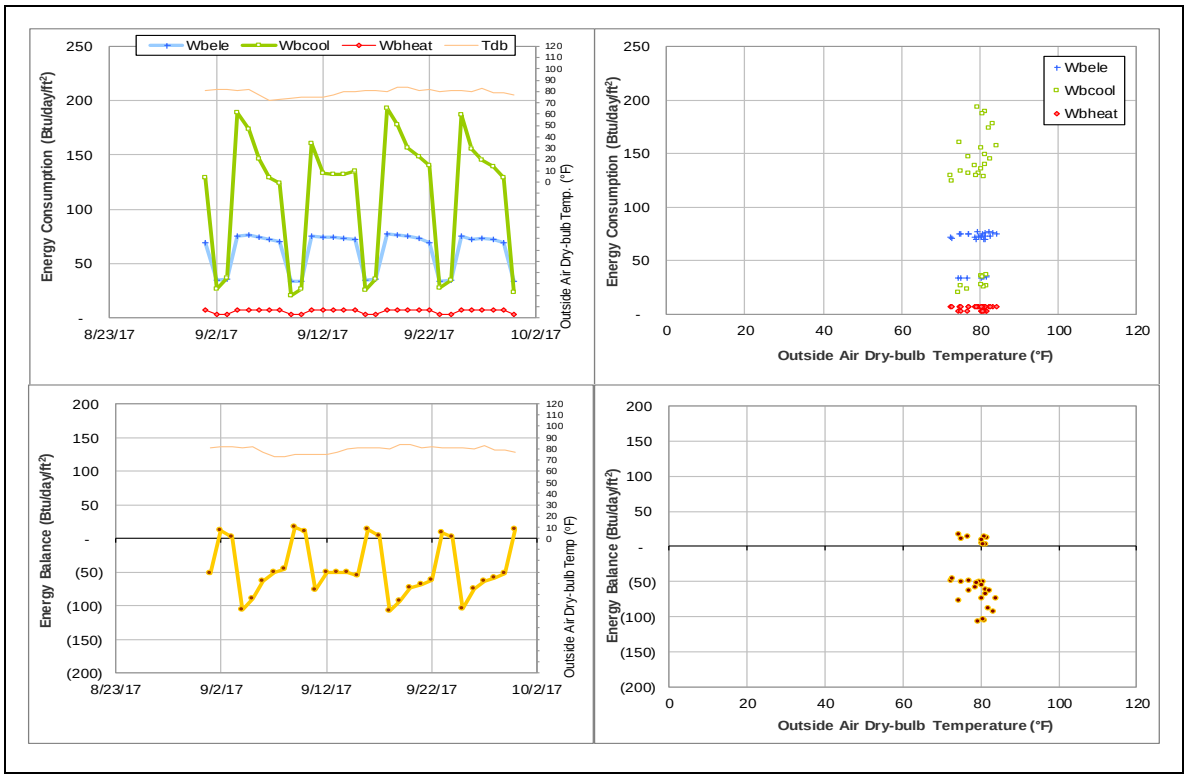
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



West Campus Parking Garage (TAMU Bldg #1559)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	004327	25	9/6/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has increased suddenly.	9/6/2017 – Ongoing

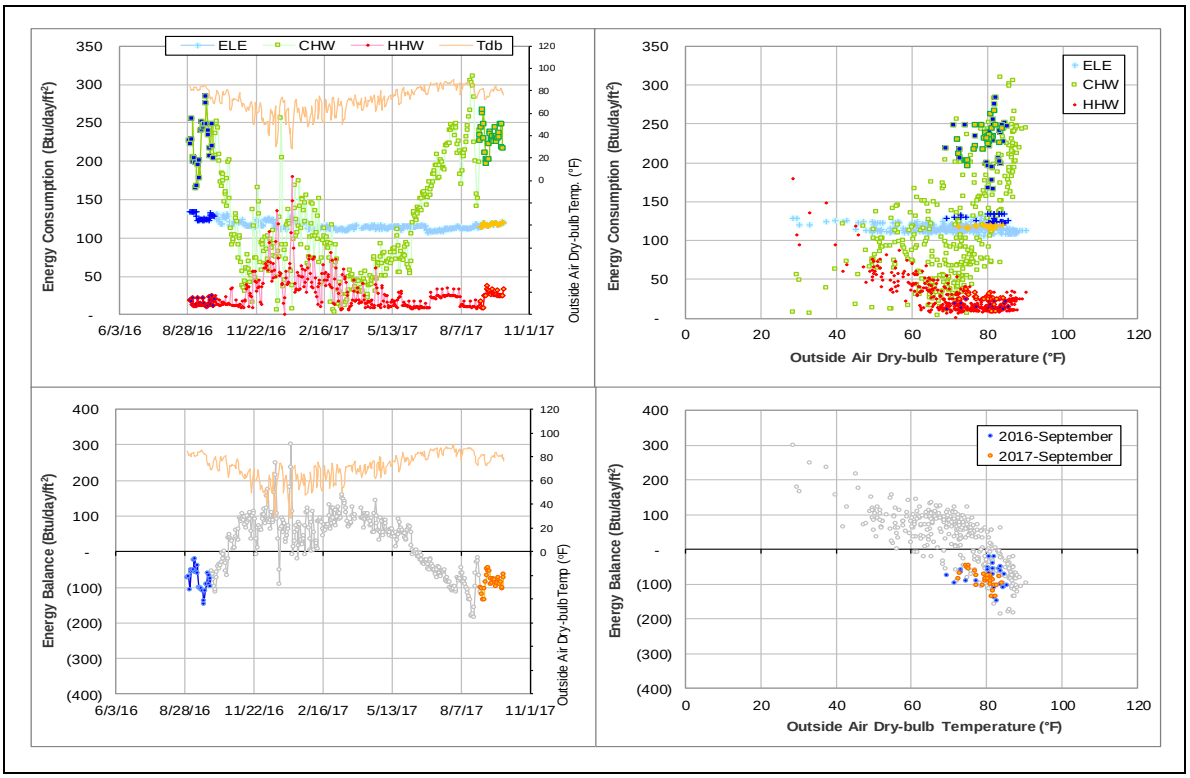
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	004327	9/6/2017 – Ongoing	Flow rate	high

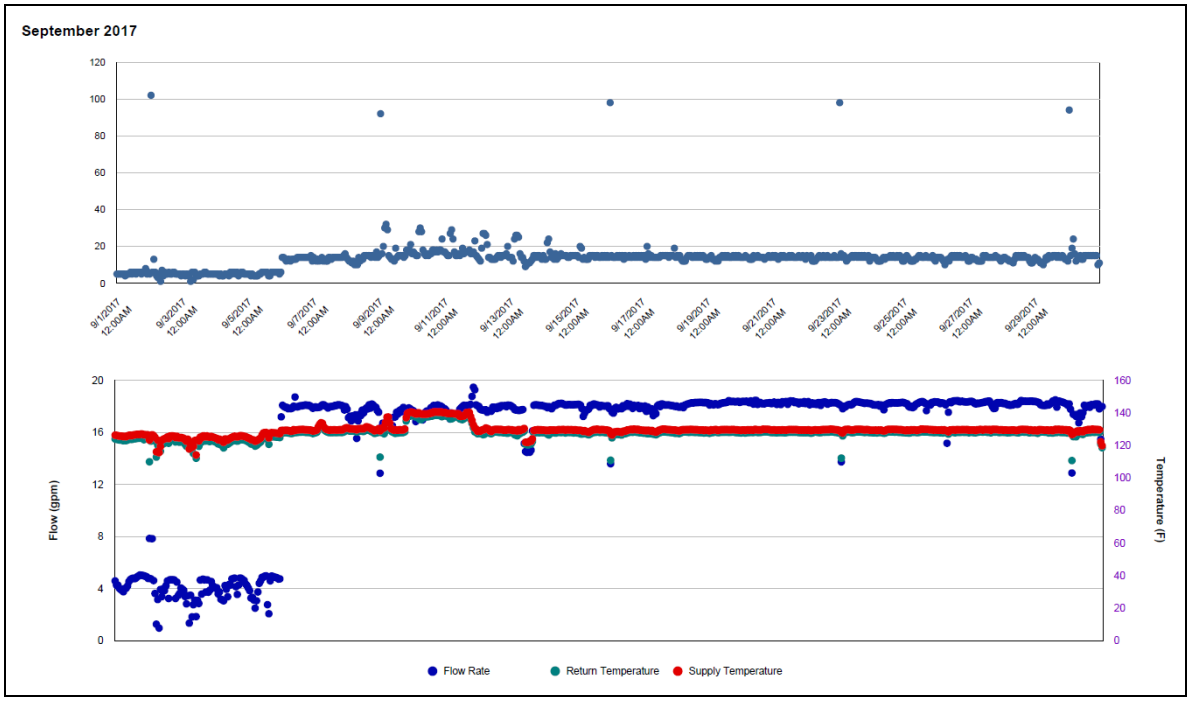
Quantitative descriptions and comments

HHW flow rate significantly increased from 2 – 6 gpm to about 18 gpm during 6/30/2017 – 8/6/2017 and since 9/6/2017. The consumption of the affected period is estimated using a model based on the data of 6/1/2015 – 5/31/2016. See also II-3.

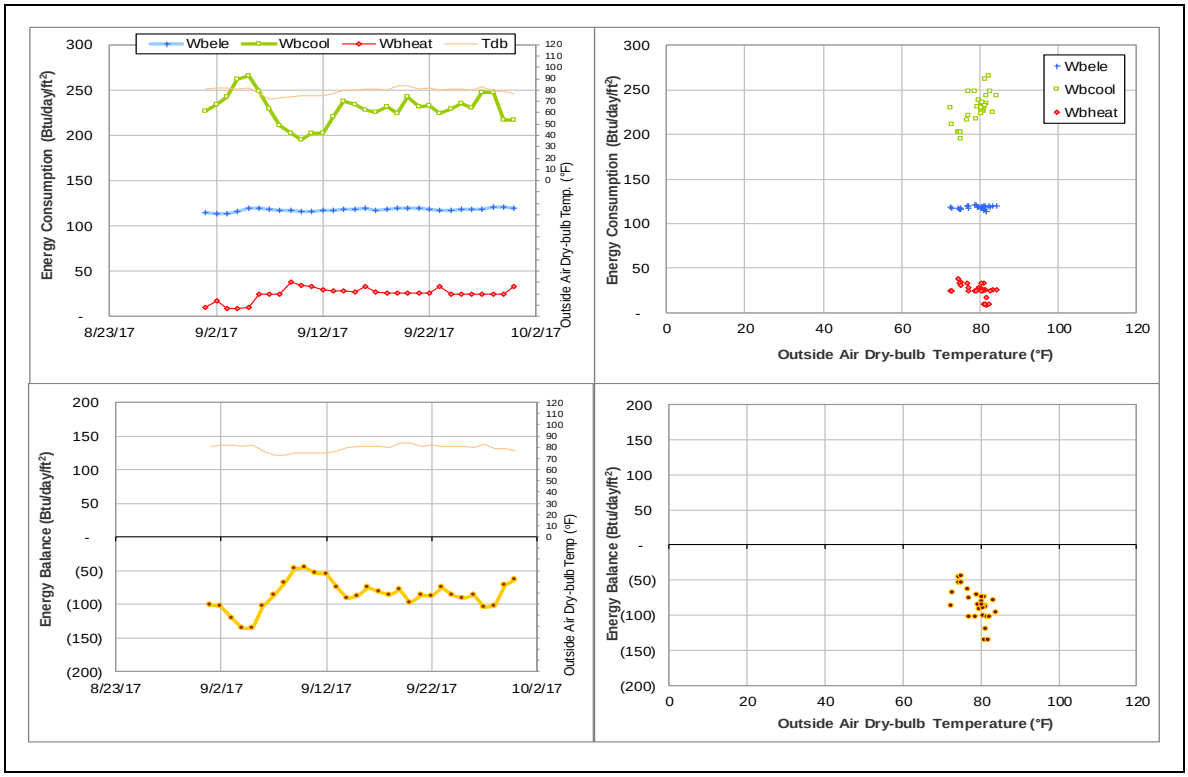
Explanatory Figure: 13 months energy balance plot with original data



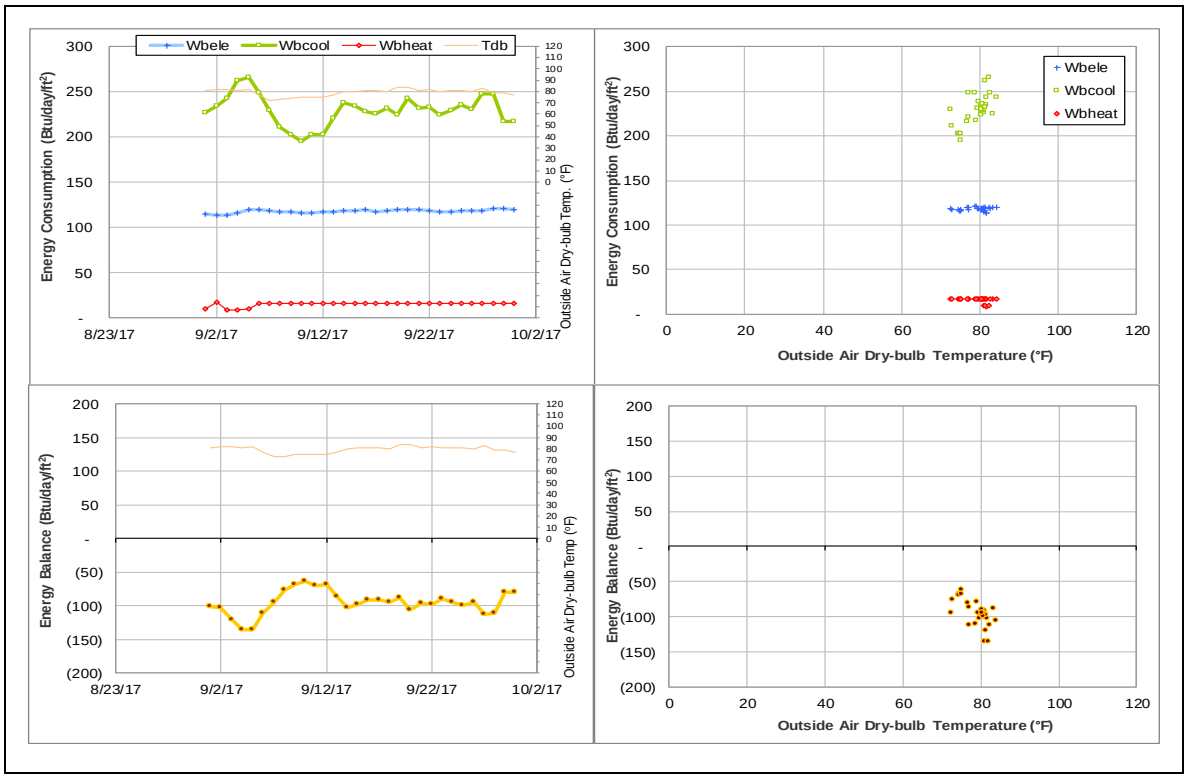
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



George Bush Presidential Library & Museum (TAMU Bldg #1606)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002812	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has increased suddenly.	6/8/2017 – Ongoing

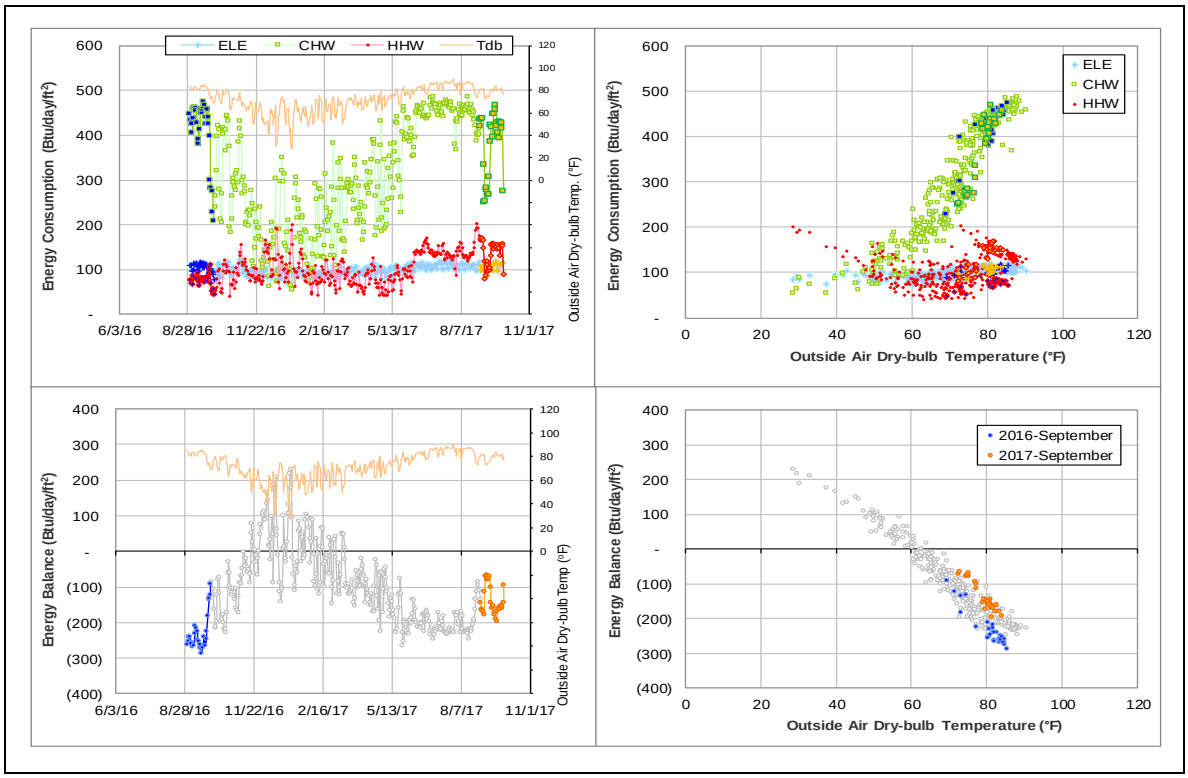
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002812	6/8/2017 – Ongoing	Return temp	Low

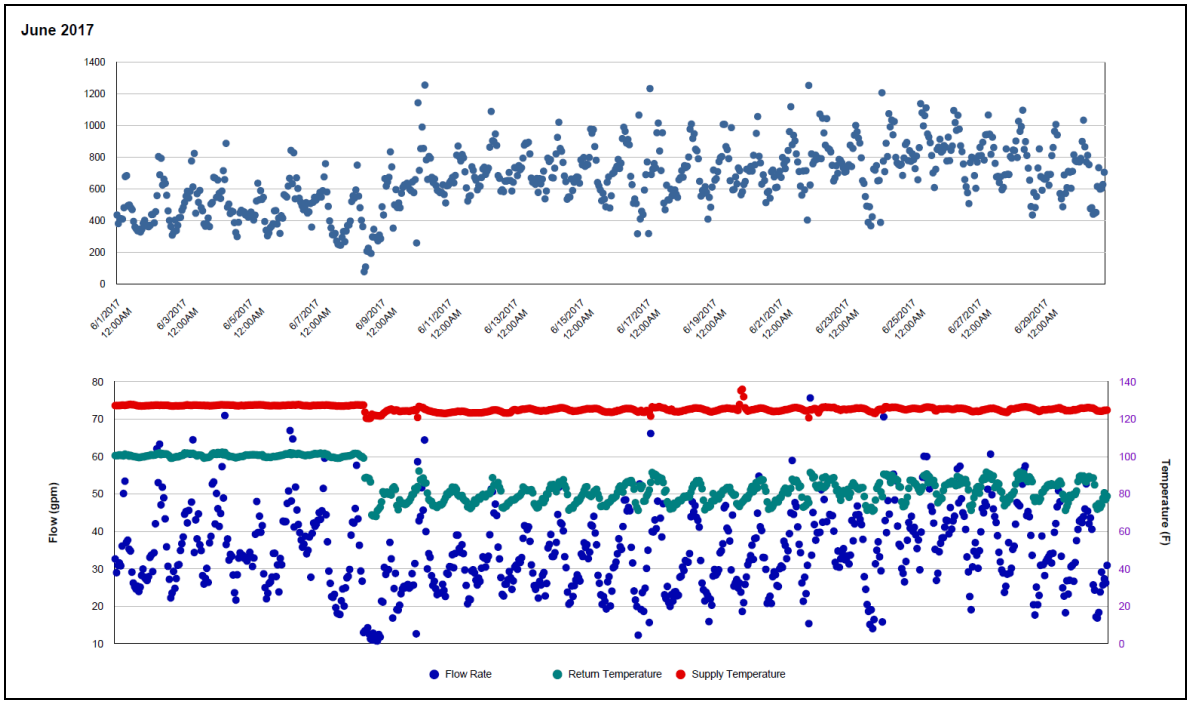
Quantitative descriptions and comments

Return temperature of HHW dropped on 6/8/2017. Delta-T thus increased from about 30°F to 40 – 50°F. As there is no significant change in flow rate, HHW consumption increased significantly. The whole month is estimated by model.

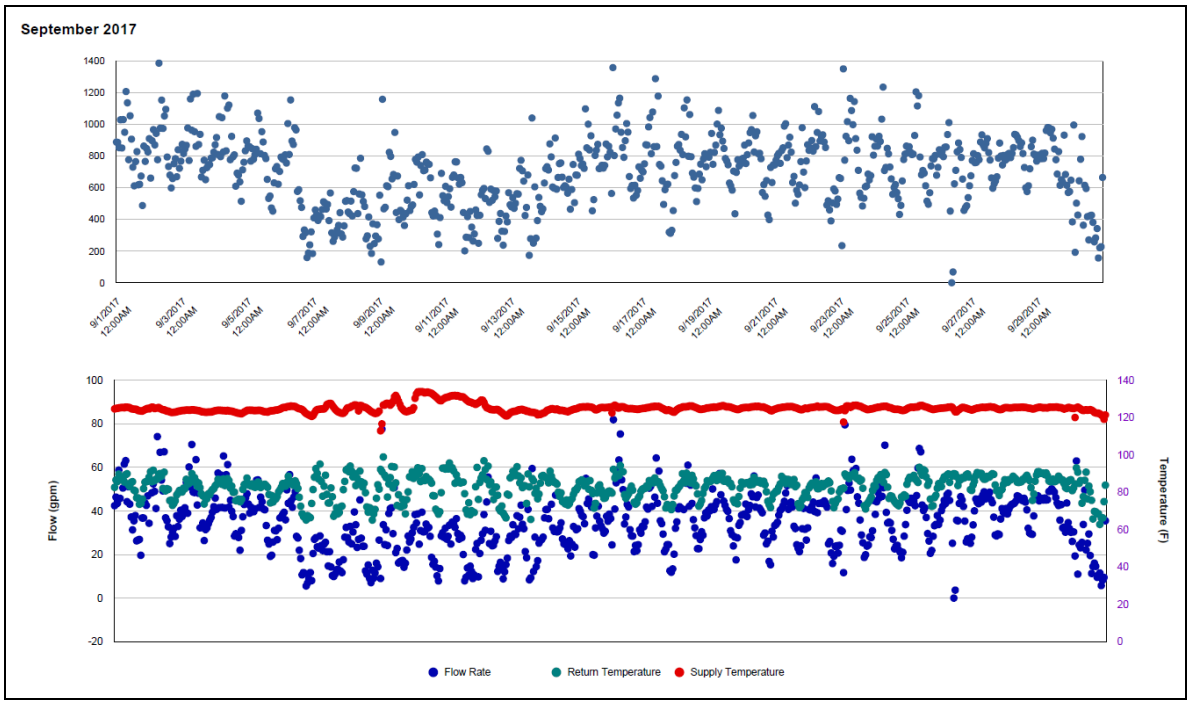
Explanatory Figure: 13 months energy balance plot with original data.



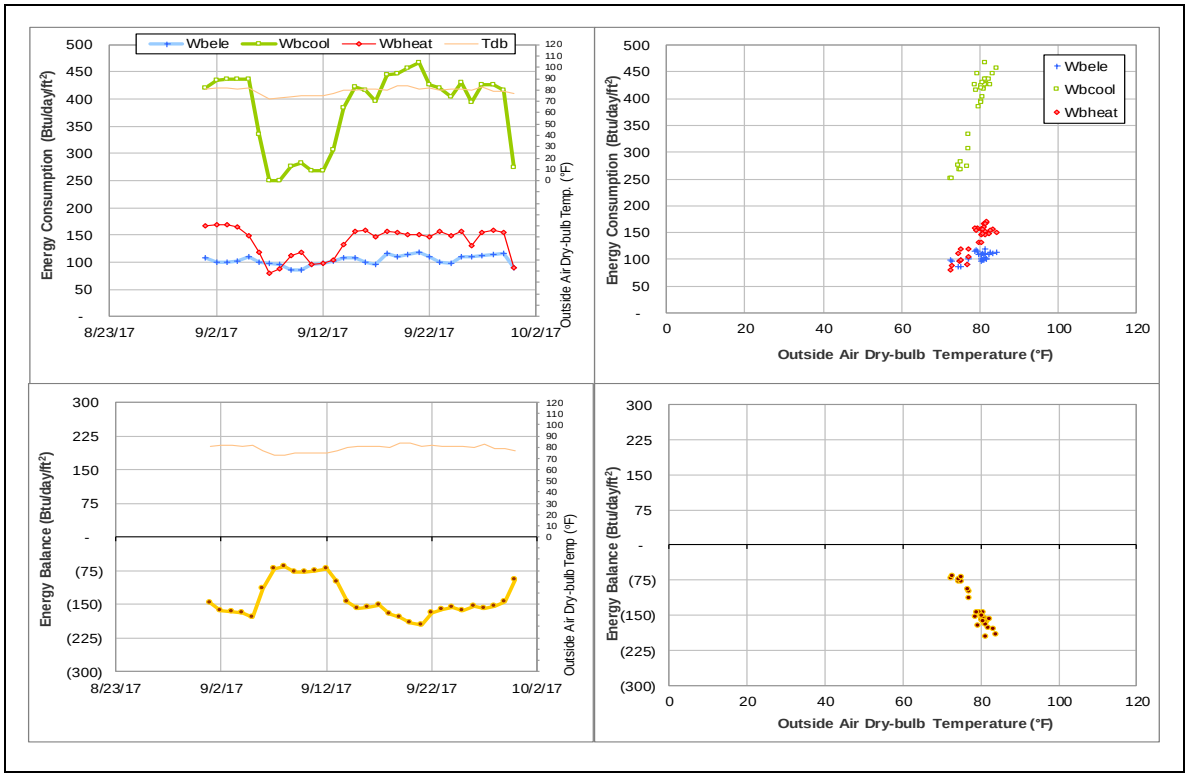
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



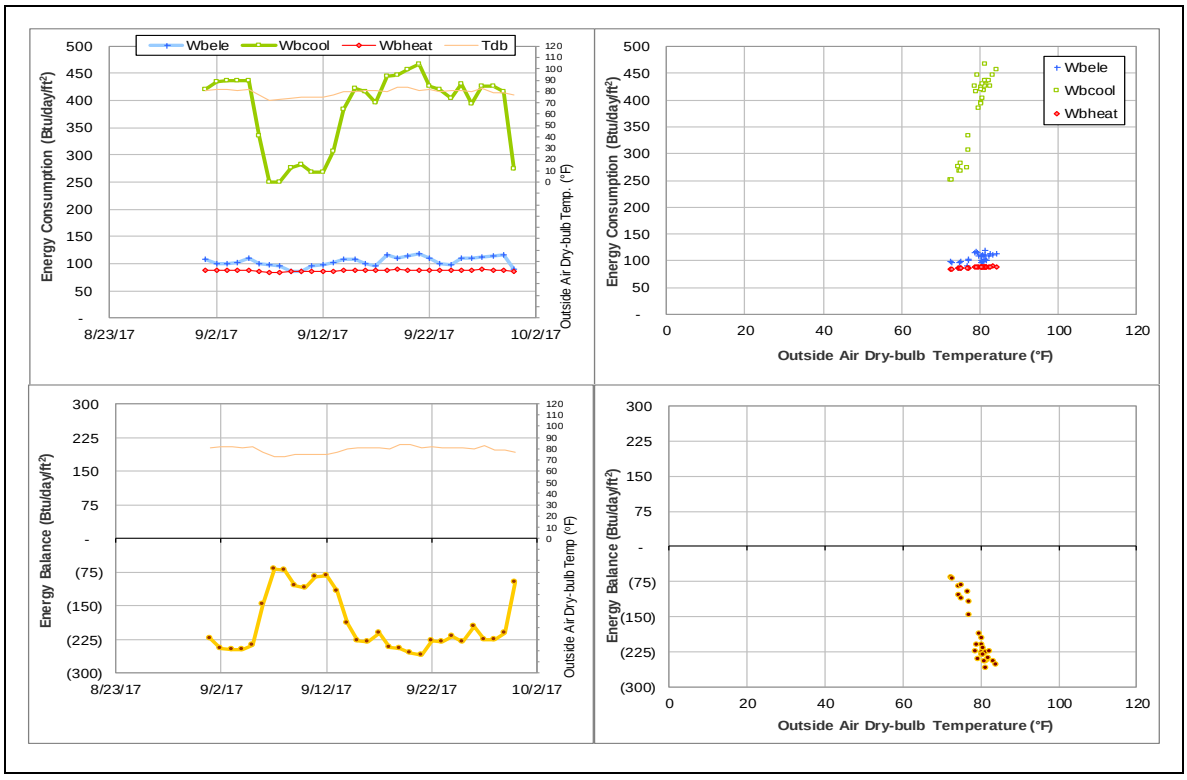
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



New TVMDL (TAMU Bldg #1809)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	009652	30	9/1/2017 – 9/30/2017	Factor
ELE	009653	30	9/1/2017 – 9/30/2017	Factor

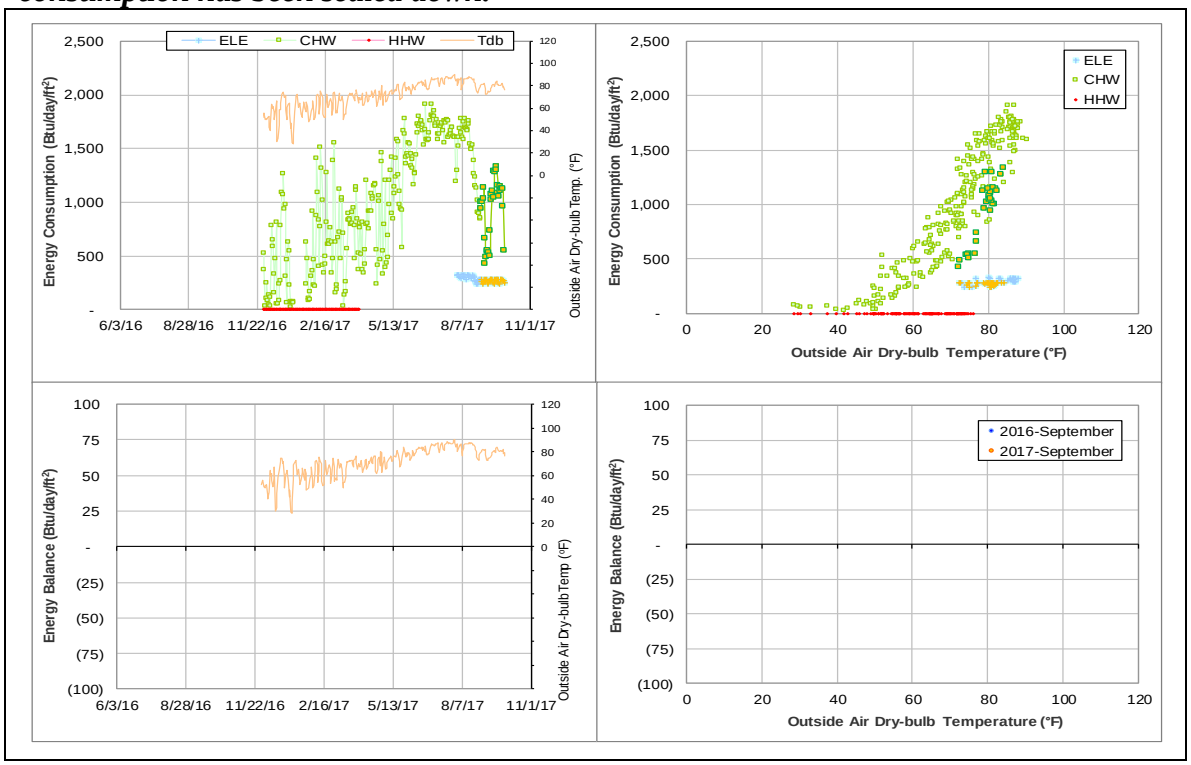
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The metered values appear to be faulty.	8/1/2017 – Ongoing

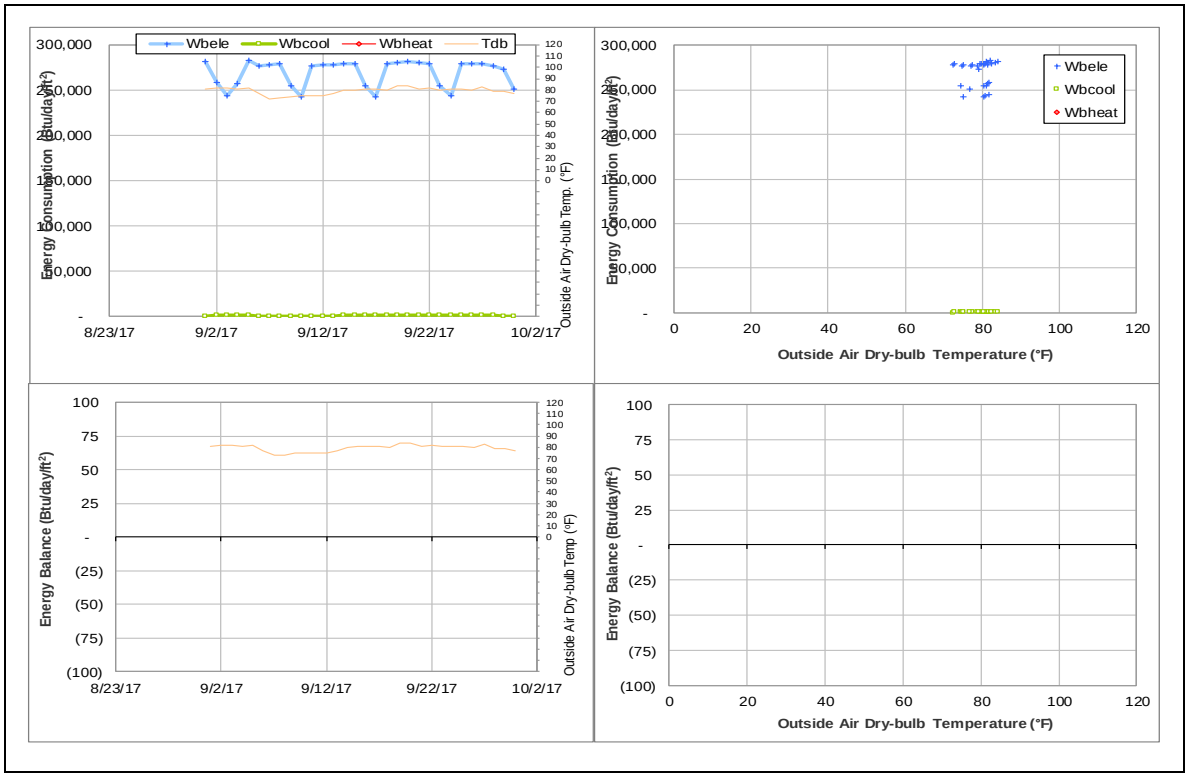
Quantitative descriptions and comments

The received ELE data have unnaturally large values. They fall back to a reasonable level when divided by 1,000.

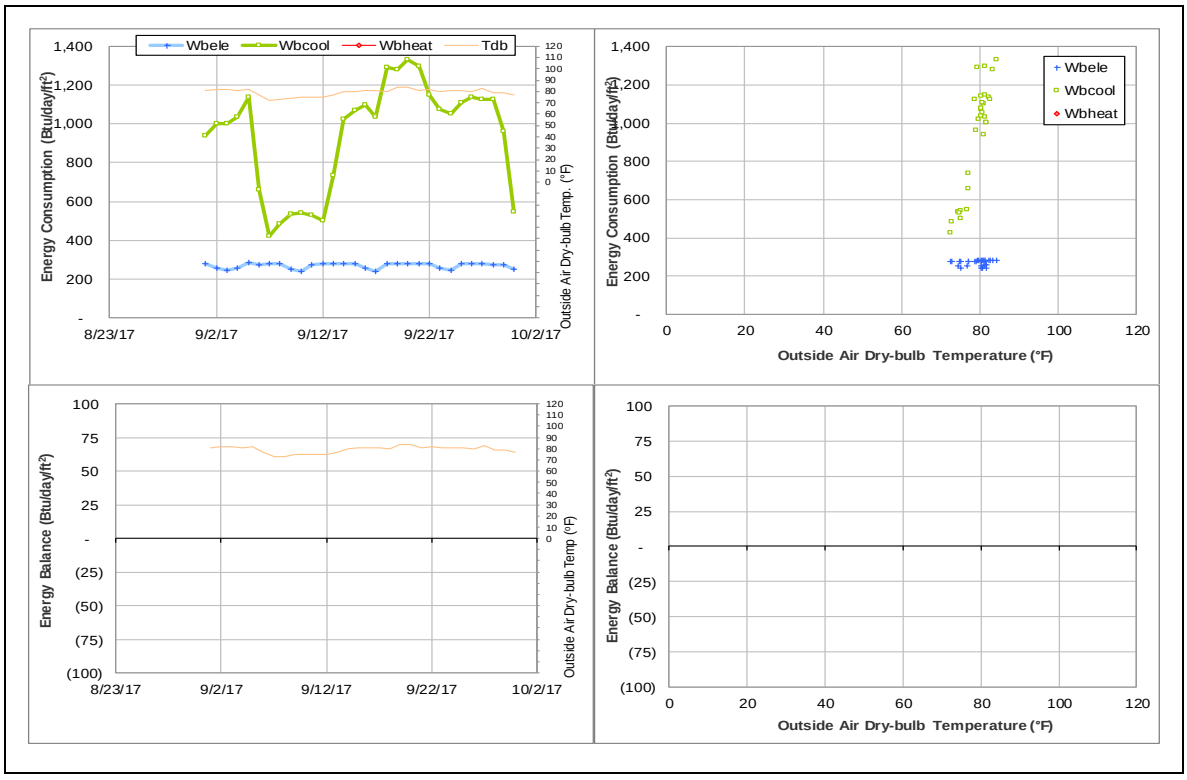
Explanatory Figure: 13 months energy balance plot with original data. ELE consumption has been scaled down.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Texas Institute for Genomic Medicine (TAMU Bldg #1900)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	005546	5	9/21/2017 – 9/23/2017 9/29/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	9/21/2017 – 9/23/2017 9/29/2017 – Ongoing

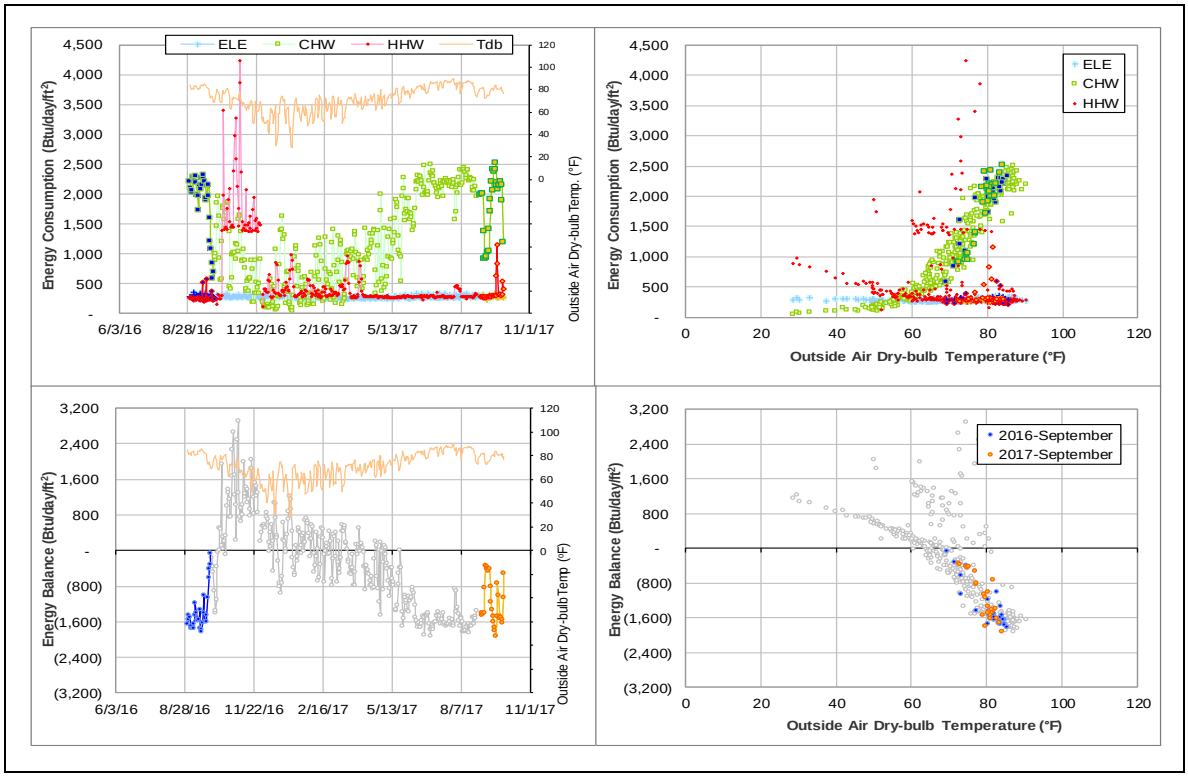
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	005546	9/21/2017 – 9/23/2017	Return temp	Low
		9/29/2017 – Ongoing	Delta-T	High

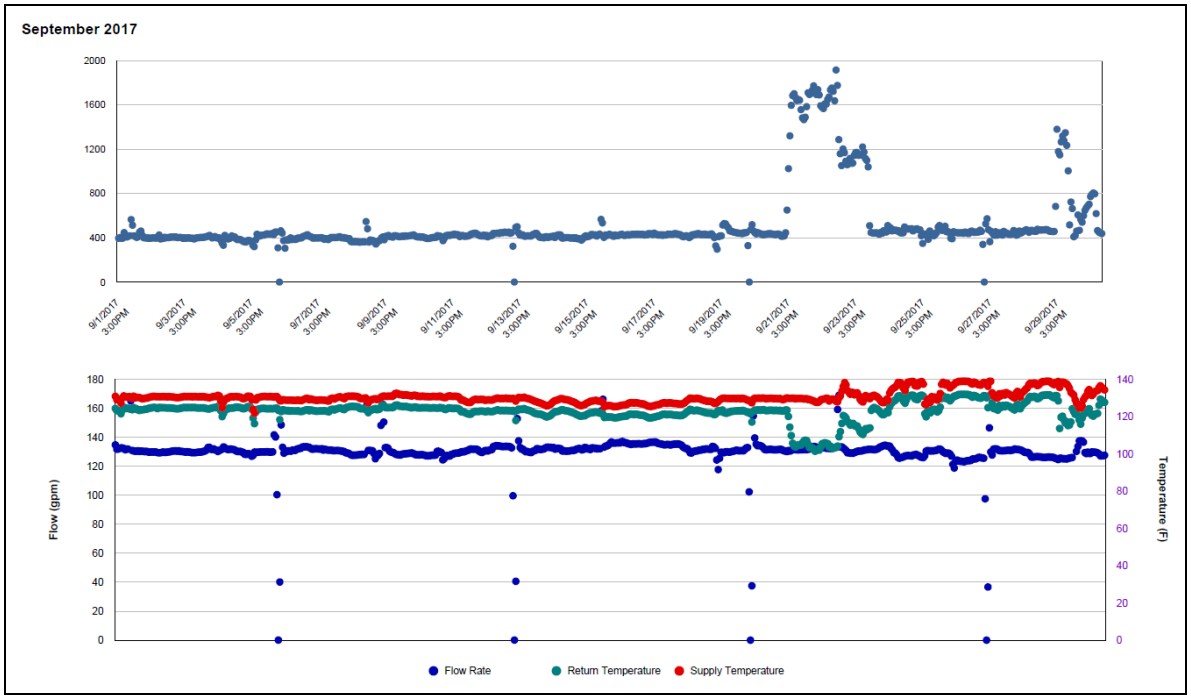
Quantitative descriptions and comments

HHW return temperature dropped from about 120°F to about 100°F on 9/21/2017 – 9/23/2017 resulting in a significant increase in HHW consumption. The temperatures became unstable since then. Higher Delta-T occurred since 9/29/2019 and resulted in another sudden increase. The affected days are estimated by odel.

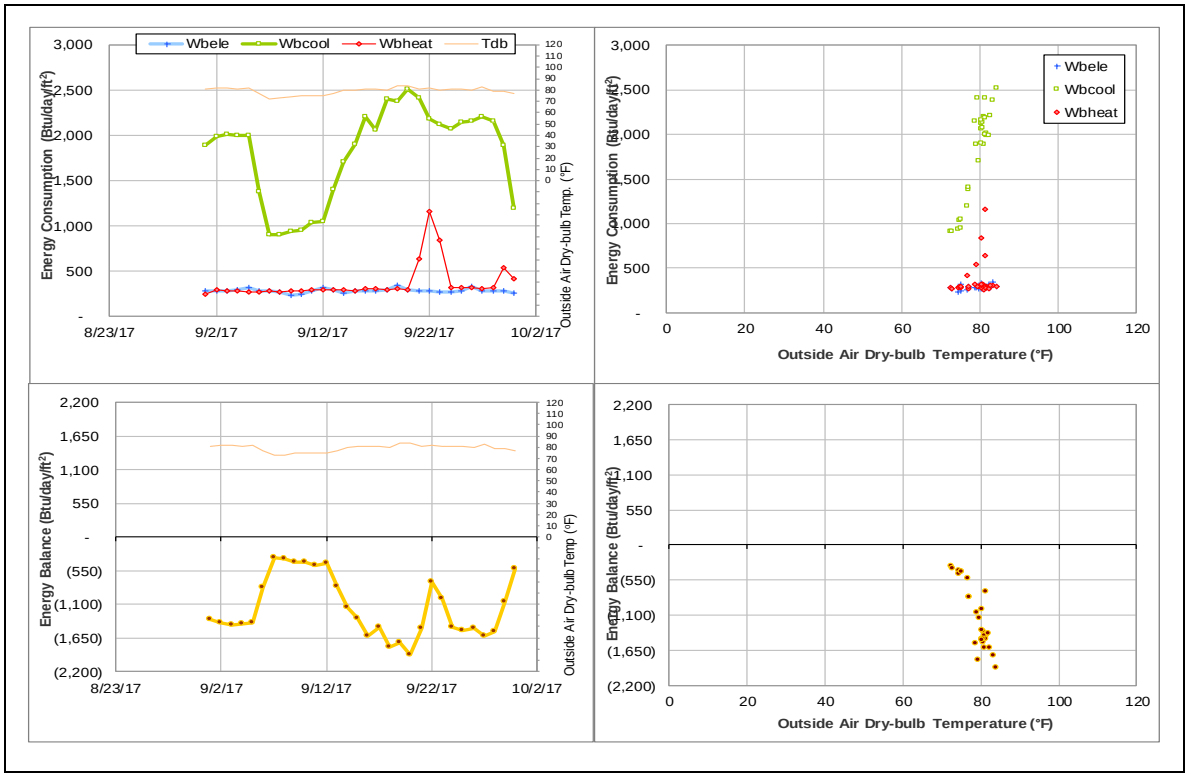
Explanatory Figure: 13 months energy balance plot with original data.



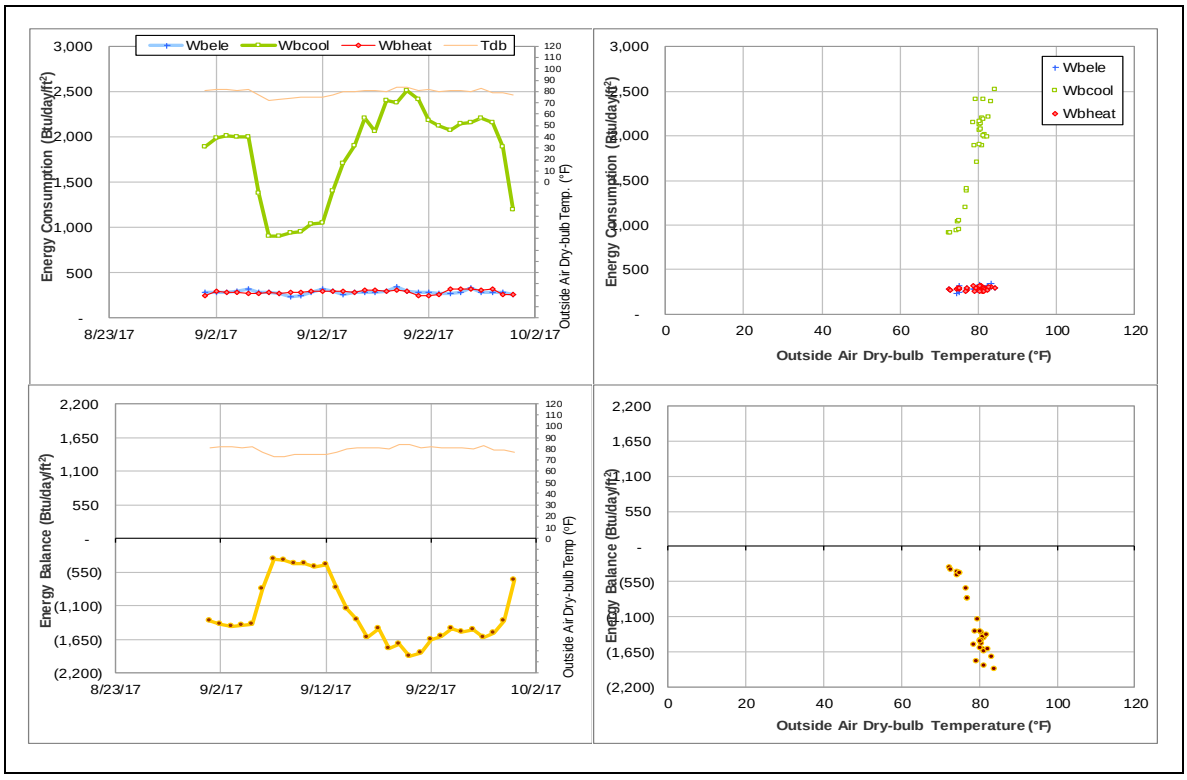
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Multi-Species Research Building (TAMU Bldg #1911)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	009133	30	9/1/2017 – 9/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	7/13/2017 – Ongoing

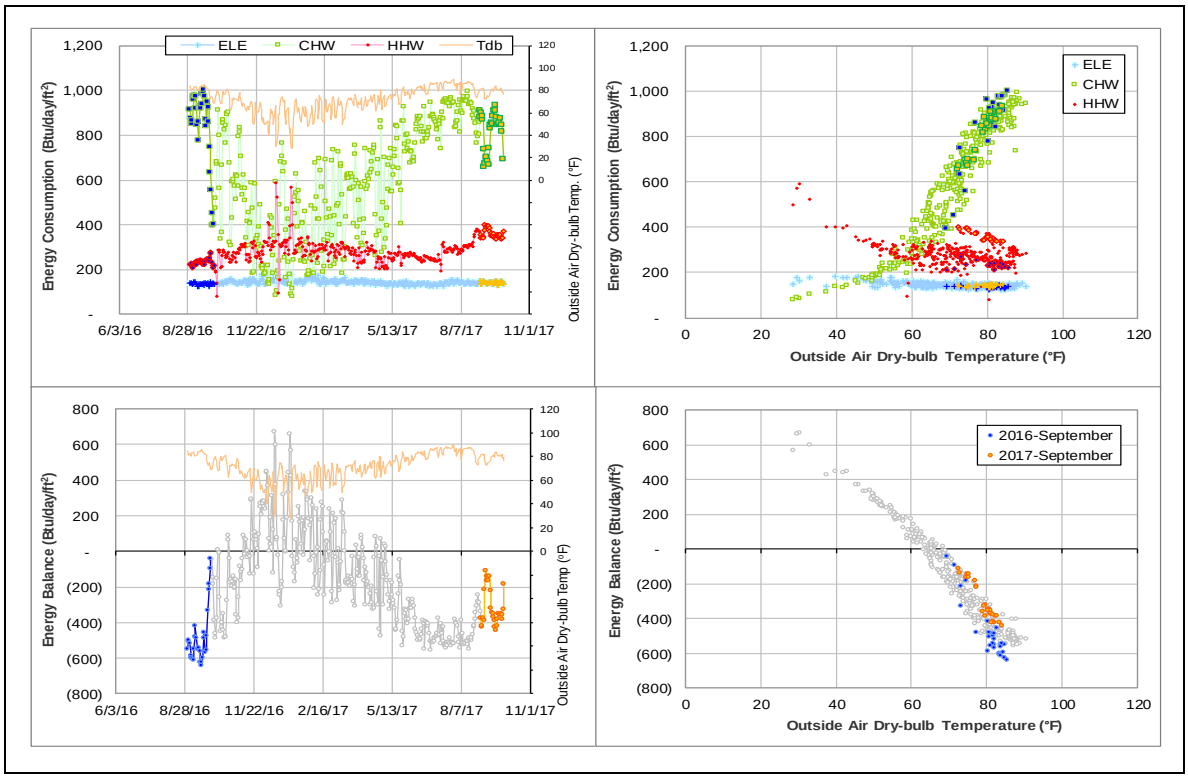
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	009133	7/13/2017 – Ongoing	Return temp	Low

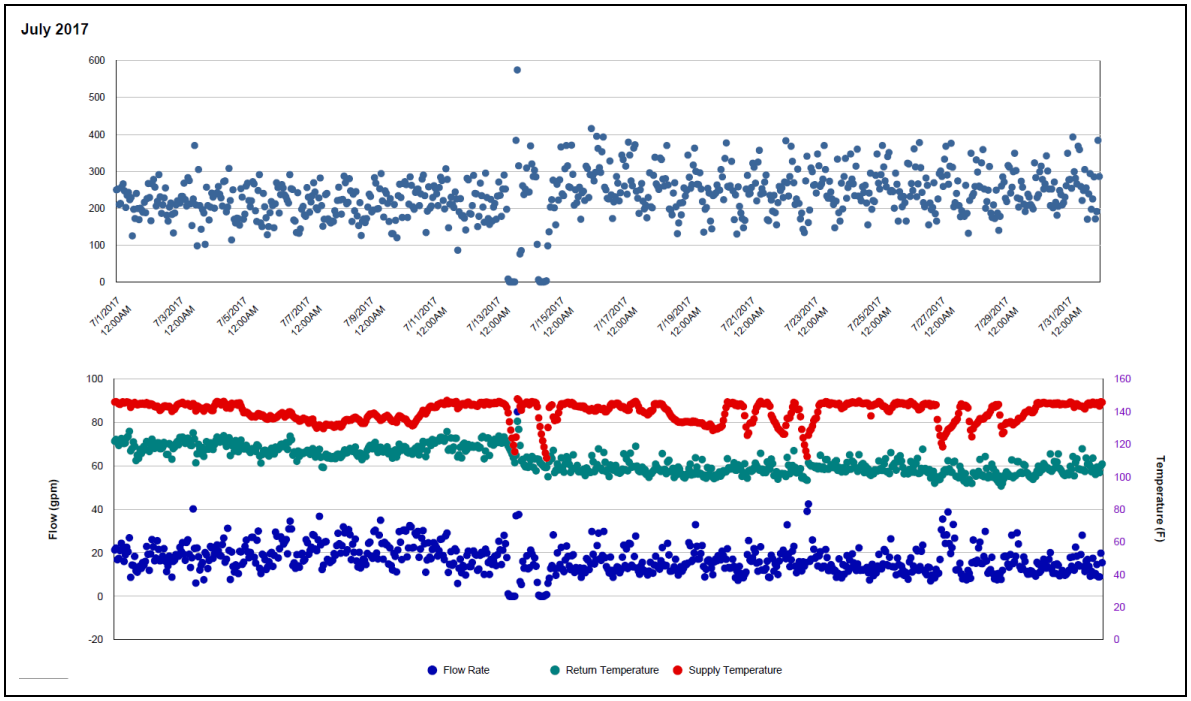
Quantitative descriptions and comments

Return temperature of HHW decreased on 7/13/2017, resulting in a larger Delta-T and hence higher HHW consumption. The consumption is going further up in August 2017 and continued this month. This period is estimated by model.

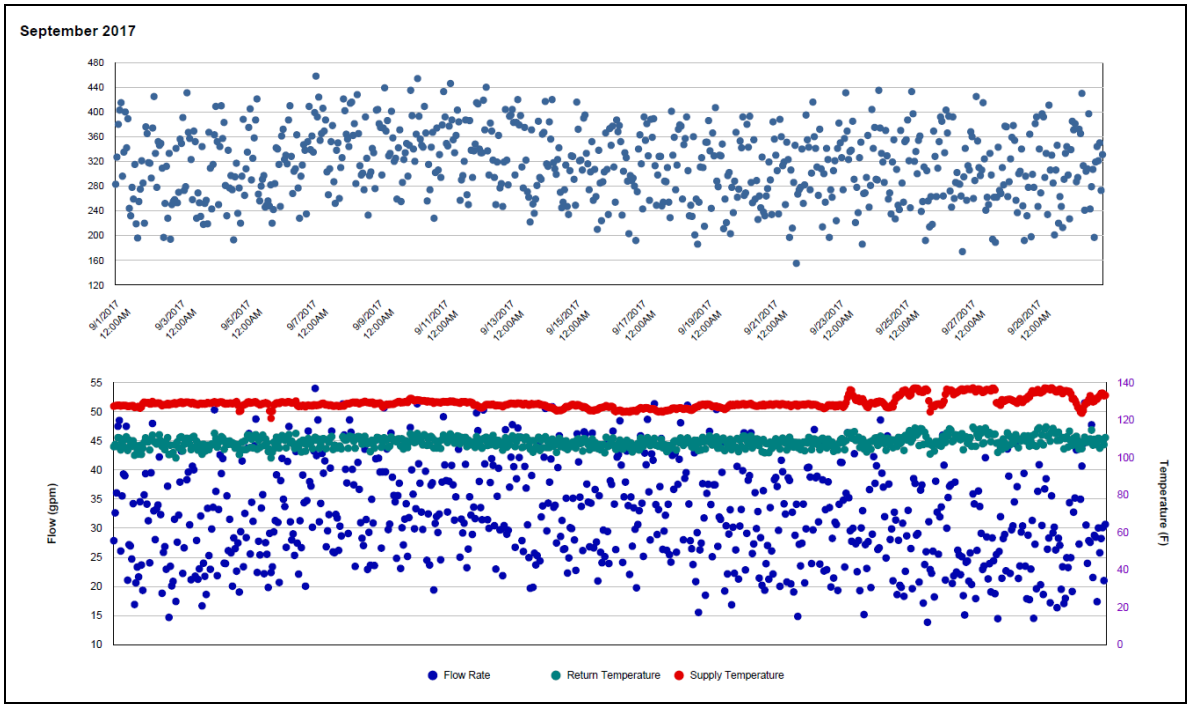
Explanatory Figure: 13 months energy balance plot with original data.



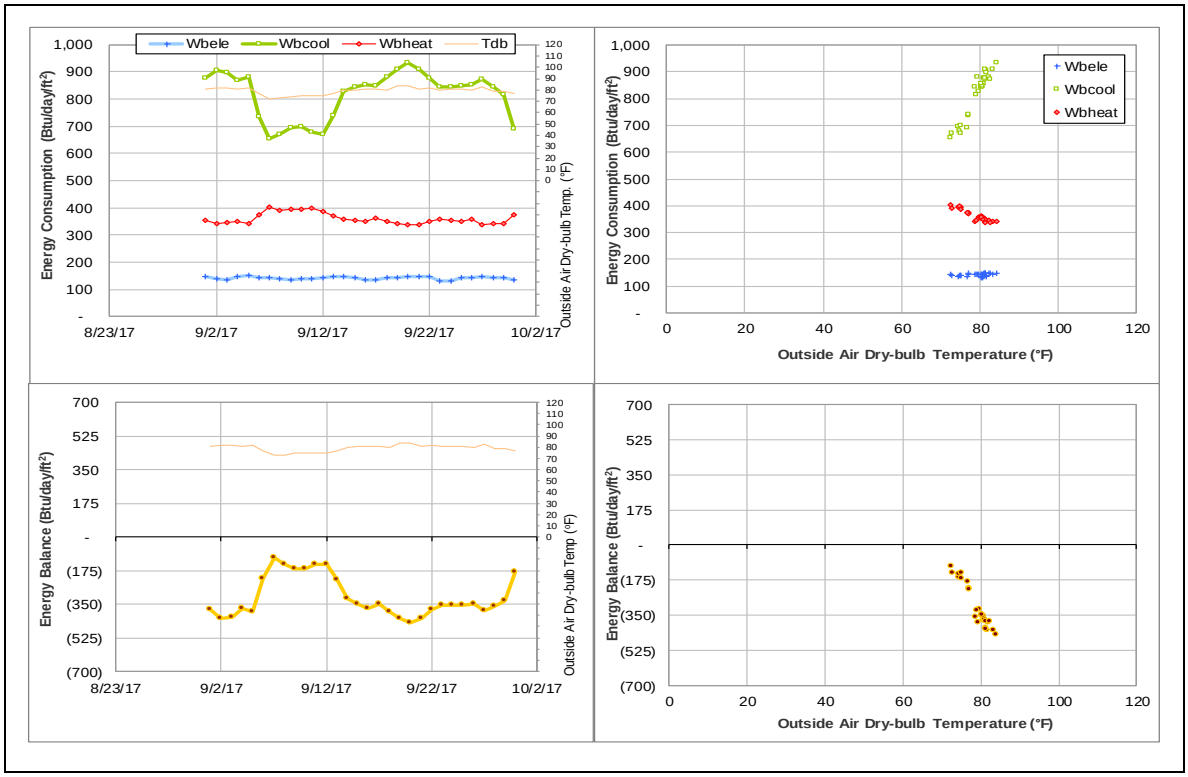
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during July 2017)



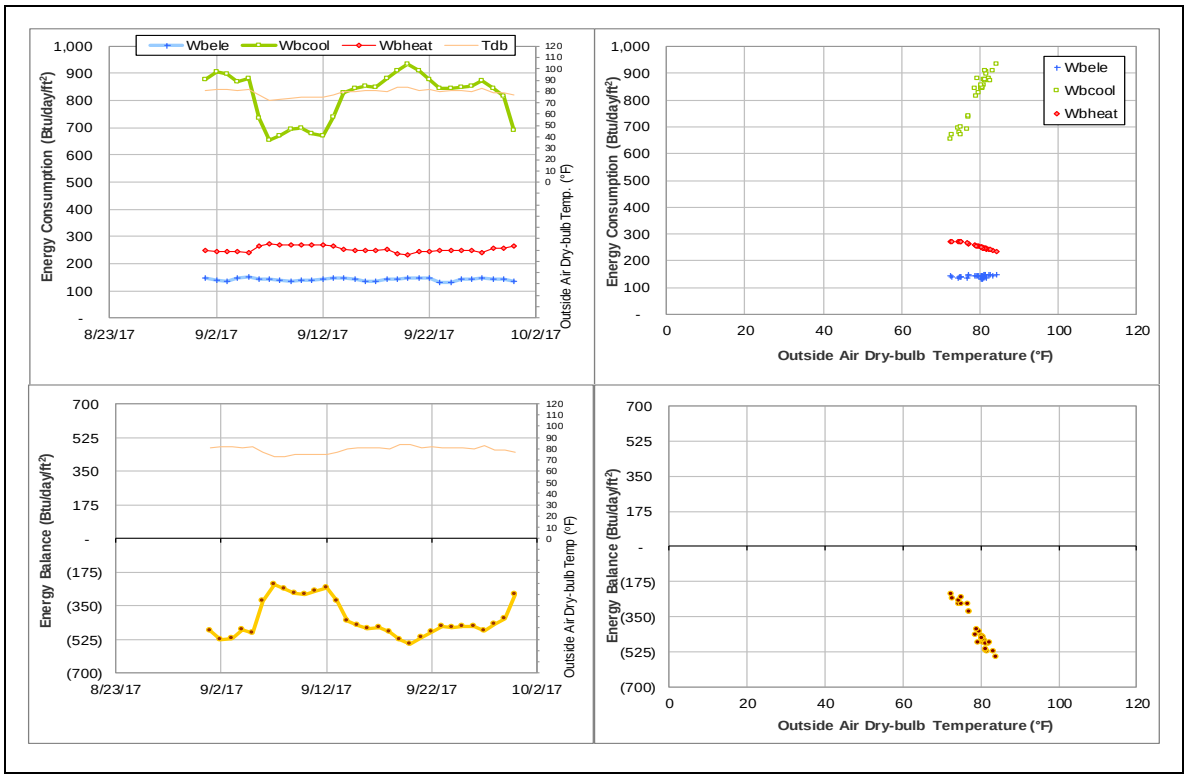
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



NCTM Manufacturing Building (TAMU Bldg #10226)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	007648	4	9/7/2017 – 9/8/2017 9/16/2017 – 9/17/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption increased for a short period. The metered values appear to be faulty.	9/7/2017 – 9/8/2017 9/16/2017 – 9/17/2017

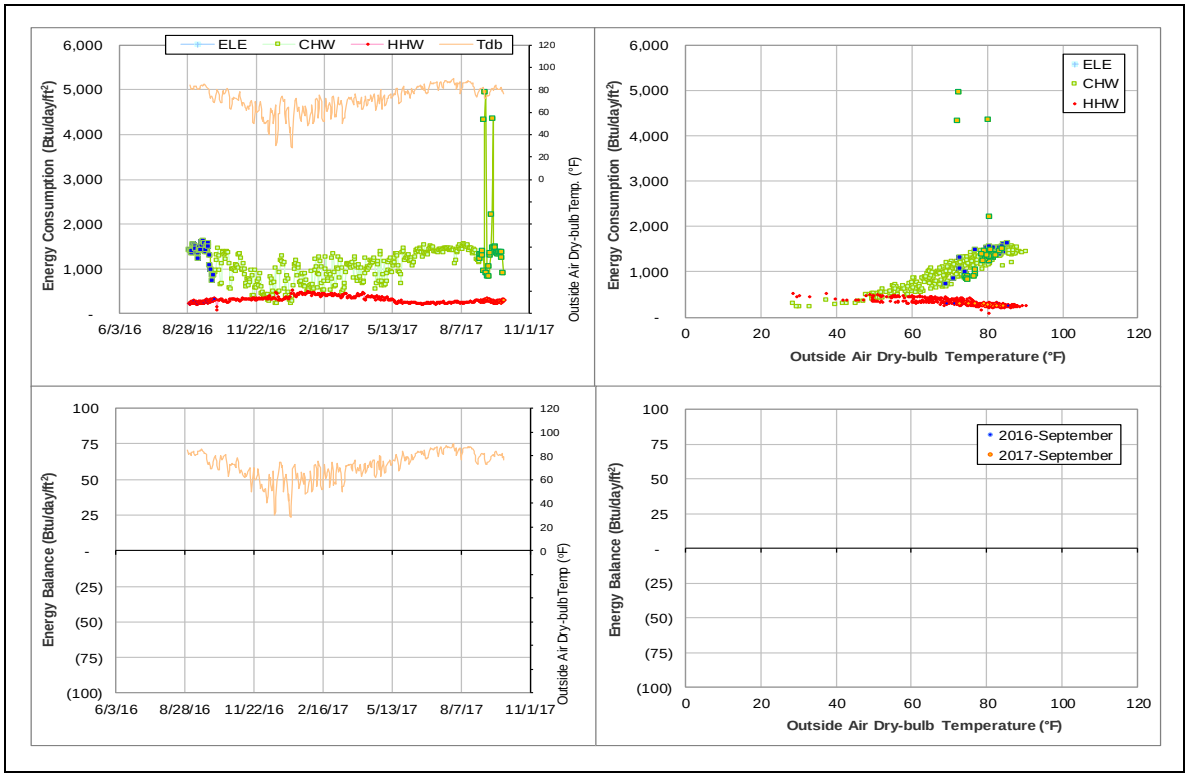
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	007648	9/7/2017 – 9/8/2017 9/16/2017 – 9/17/2017	Supply temp	Faulty, zero

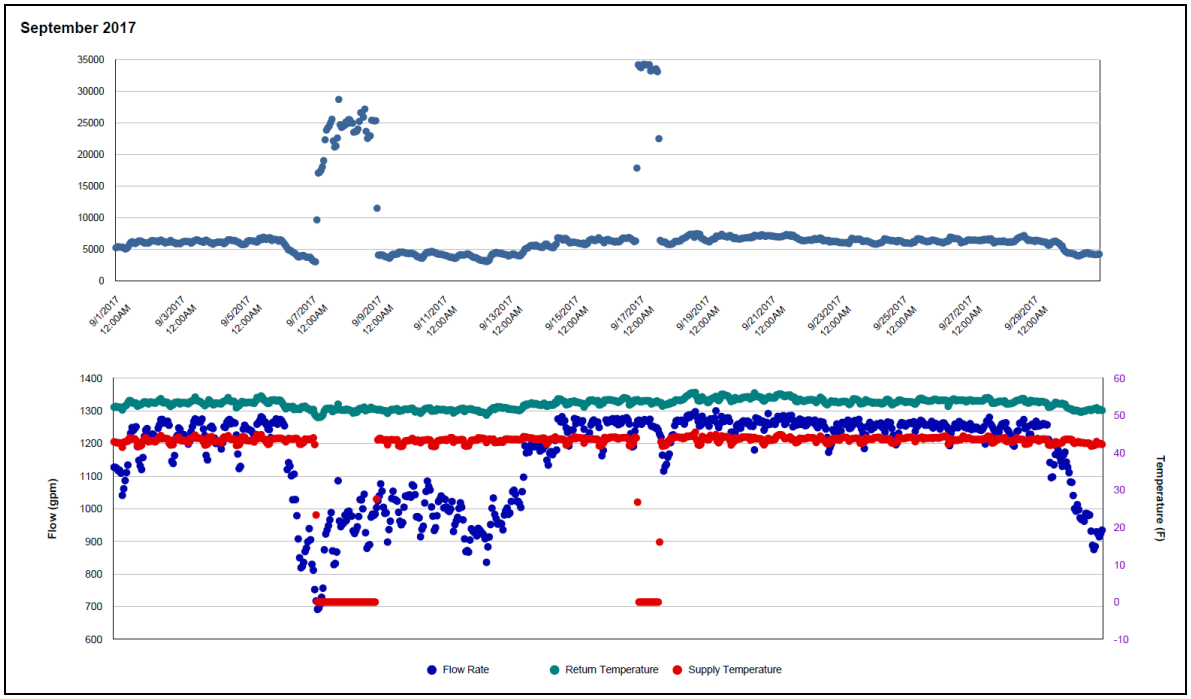
Quantitative descriptions and comments

The supply temperature readings of CHW MID 007648 were constant zero on 9/7/2017 – 9/8/2017 and 9/16/2017 – 9/17/2017. The consumption of these four days was calculated based on the faulty readings. The affected days are estimated by model.

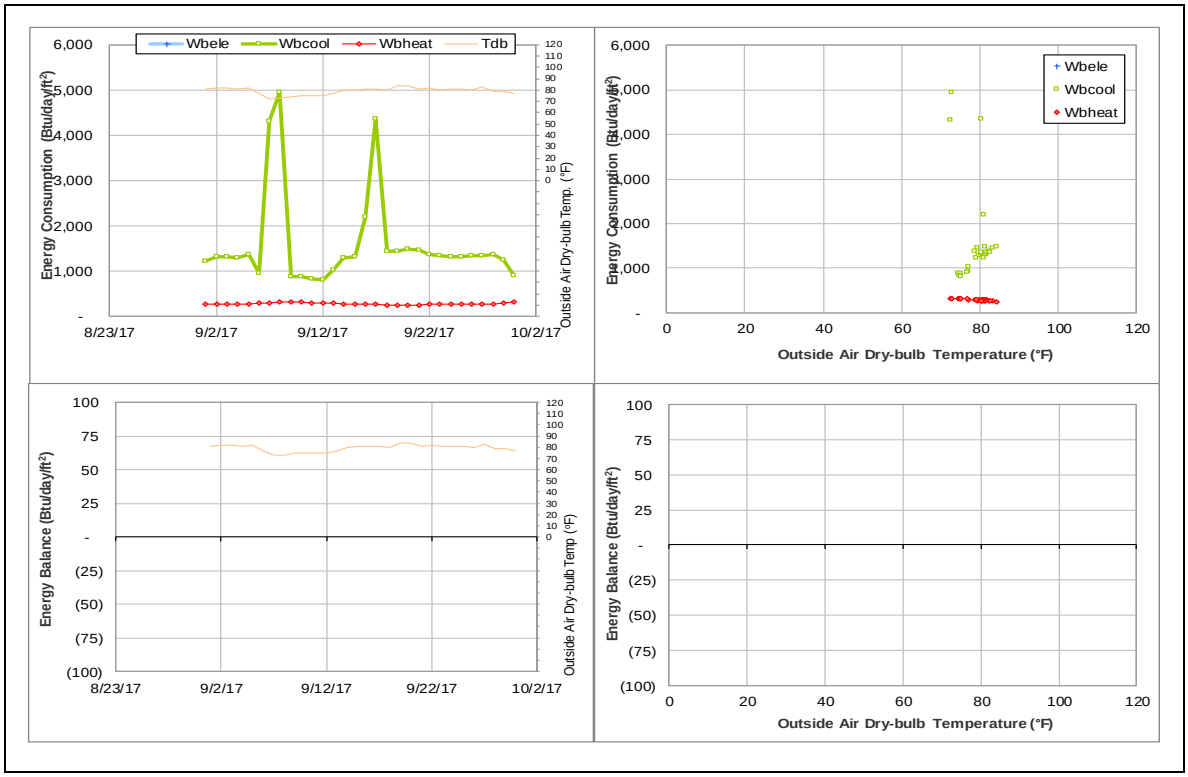
Explanatory Figure: 13 months energy balance plot with original data.



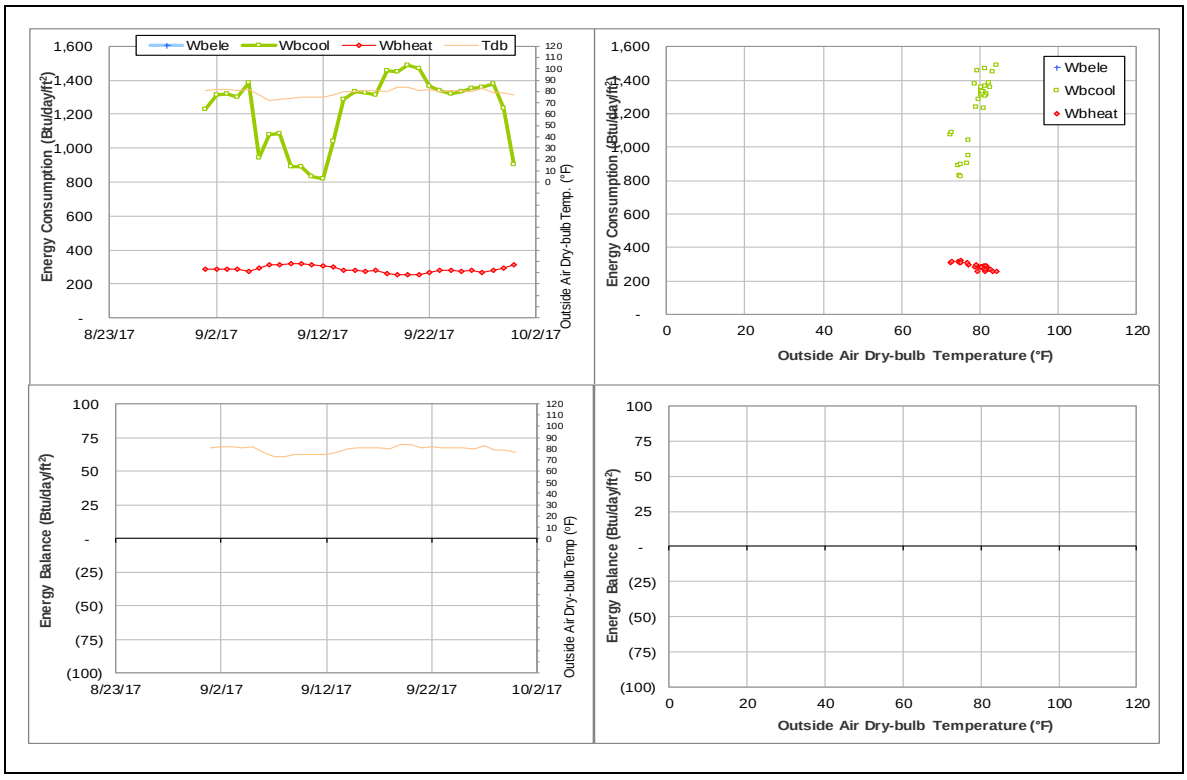
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during September 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



II-3 Meters with Significant Issues in Energy Consumption Data

In this section, significant issues in the data behavior are described. On the contrary to the section II–2, alternative consumption is not estimated for some reasons: presence of continuous problems since the beginning of the data acquisition, unbalanced energy uses in the past data, changes in the consumption patterns without evidence of data problems, etc. Table II–3 gives a list of meters included in this section.

Table II-3 Meters with significant issues in the consumption data during September 2017

Building No.	Building Name	MeterID	Type
0291	Rudder Residence Hall		
		002132	CHW
		002136	HHW
0293	Appelt Residence Hall		
		002062	CHW
		002066	HHW
0325 & 0385	CE TTI Office & Lab Building		
		009123	CHW
0353	Bright Aerospace Building		
		002746	CHW
0394	Underwood Residence Hall		
		002117	CHW
		002121	HHW
0398	Langford Architecture Center Building A		
		003951	CHW
		003955	HHW
0419	Legett Residence Hall		
		000031	ELE
		002218	CHW
		002222	HHW
442	Dunn Residence Hall		
		009095	ELE
		002519	CHW
		002515	HHW
445	Teague Research Center		
		006415	HHW
463	Psychology Building		
		002941	CHW
464	State Chemist Building		
		005837	ELE
482	Fermier Hall		
		005878	CHW
		005881	HHW
484	Chemistry Building		
		007557	ELE
		007152	ELE
492	Civil Engineering Building		
		005783	ELE
		005950	CHW
		005954	HHW
517	DPC Annex		
		006567	HHW
0496	Utilities & Energy Services Central Office		
		007706	ELE
		006929	CHW
		006933	HHW
0499	Engineering Innovation Center		
		002672	CHW
0506	Nagle Hall		
		001484	ELE
0511	Heep Laboratory Building		
		005787	ELE
0524	Blocker building		
		002914	CHW
		002918	HHW
0740	McNew Laboratory		
		005874	ELE
		005974	CHW
		005968	HHW
0880	TVMC-Small Animal Building		
		005962	HHW
0971	Dollar Data Center		
		010002	ELE
		010003	ELE
1156	TVMC-Small Animal Building		
		007679	CHW
1505	Rosenthal Meat Science & Technology Center		
		002577	HHW
1509	Medical Sciences Library		
		000350	ELE
		003777	CHW
		003781	HHW
1558	Cox-McFerrin Center for Aggie Basketball		
		007575	CHW
		007577	HHW
1559	West Campus Parking Garage		
		004322	CHW
1601	International Ocean Discovery Building		
		006351	ELE
		006382	CHW
		008144	CHW
		008145	HHW
		009829	HHW
1604	Offshore Technology Research Center		
		006660	ELE
1904	Texas A&M Institute for Preclinical Studies A		
		006364	ELE
		006365	CHW
		006366	HHW

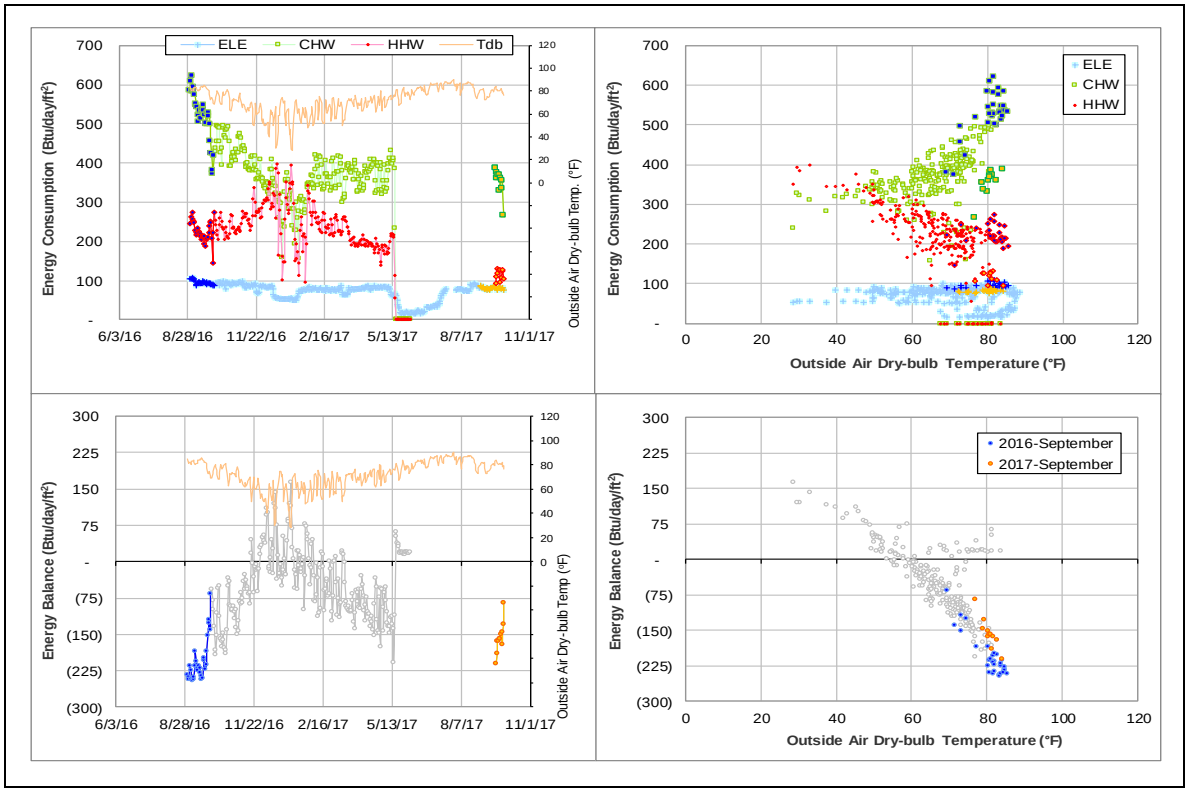
Rudder Residence Hall (TAMU Bldg #291)

Comments

This building had renovation in summer of 2017. Both the CHW and HHW data was missing for several months. The data became available on 9/19/2017 with lower consumption level compared to the level before renovation as excepted. The missing data in this month using temporary models based on limited available data after renovation.

The cross-point temperature of energy balance for this building was around 58°F before renovation and it increased slightly now. More data is needed to see how the pattern develops.

Explanatory Figure: 13 months energy balance plot with original data



Appelt Residence Hall (TAMU Bldg #293)

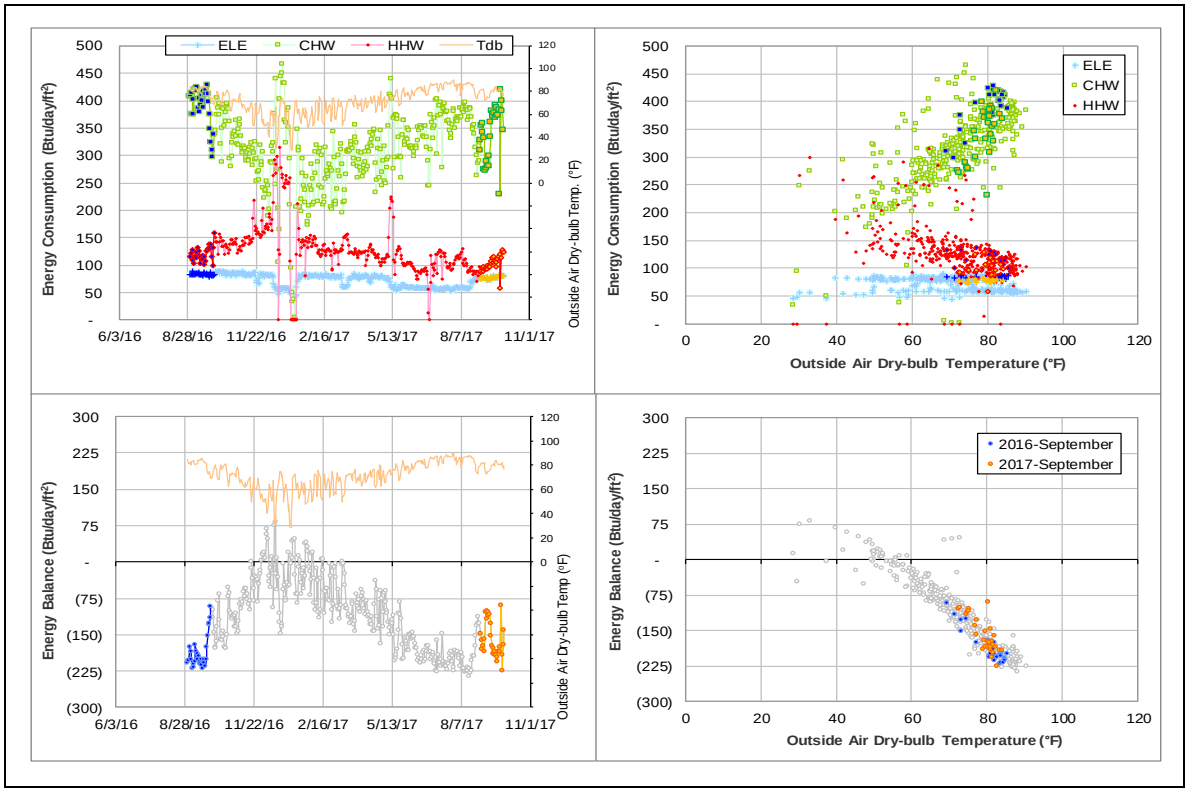
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW and HHW	The consumption level changes frequently	Since December 2014
Energy Balance	The energy balance decreased and the cross-point temperature is around 55°F.	Since January 2015

Comments

Both the CHW and HHW consumption levels have been unstable and changing frequently. The energy balance load was low with the cross-point temperature around 55°F. The low E_{BL} level suggests an imbalance of metered energy use in the building, but we are not able to determine the cause.

Explanatory Figure: 13 months energy balance plot with original data



CE TTI Office & Lab Building (TAMU Bldg #325-385)

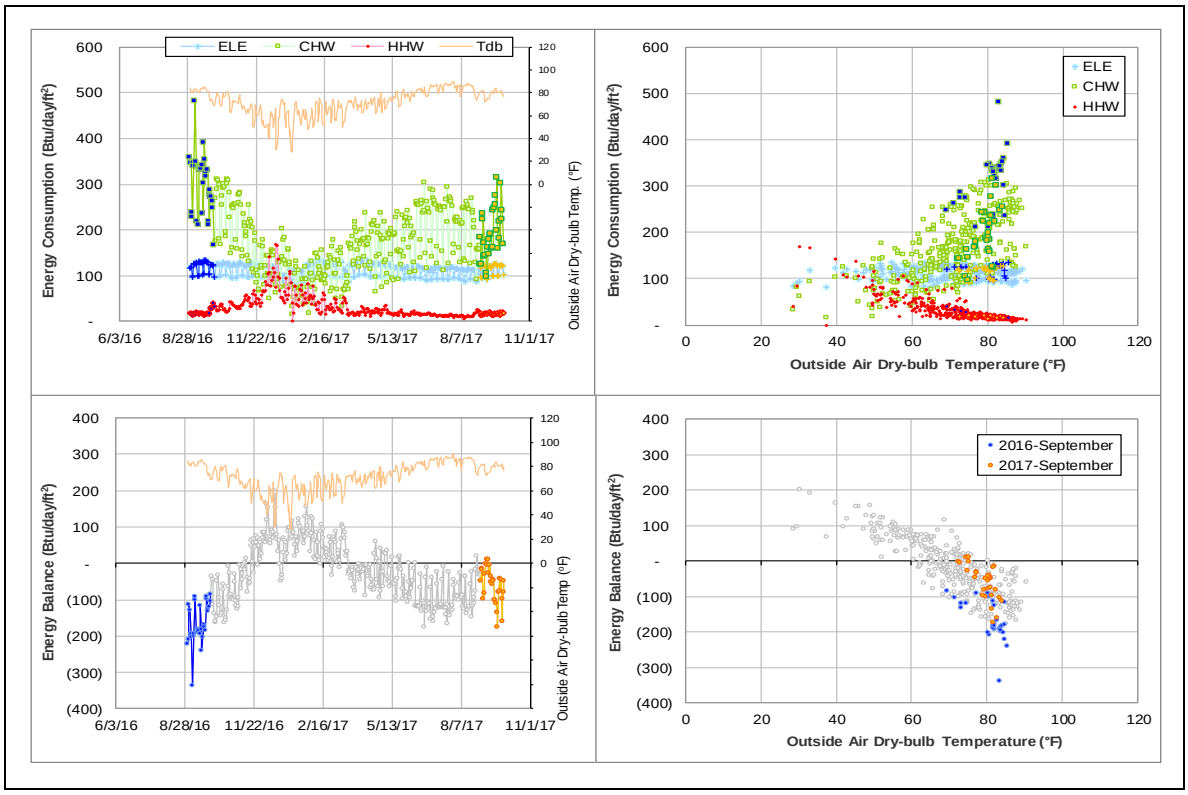
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level decreased.	Since July 2016

Comments

CHW consumption gradually dropped to a level that is lower than the past year by 50 – 100 Btu/day/ft^2. No obvious sensor reading behavior anomaly is observed. More data is needed to see how the pattern develops.

Explanatory Figure: 13 months energy balance plot with original data.



Bright Building (TAMU Bldg #353)

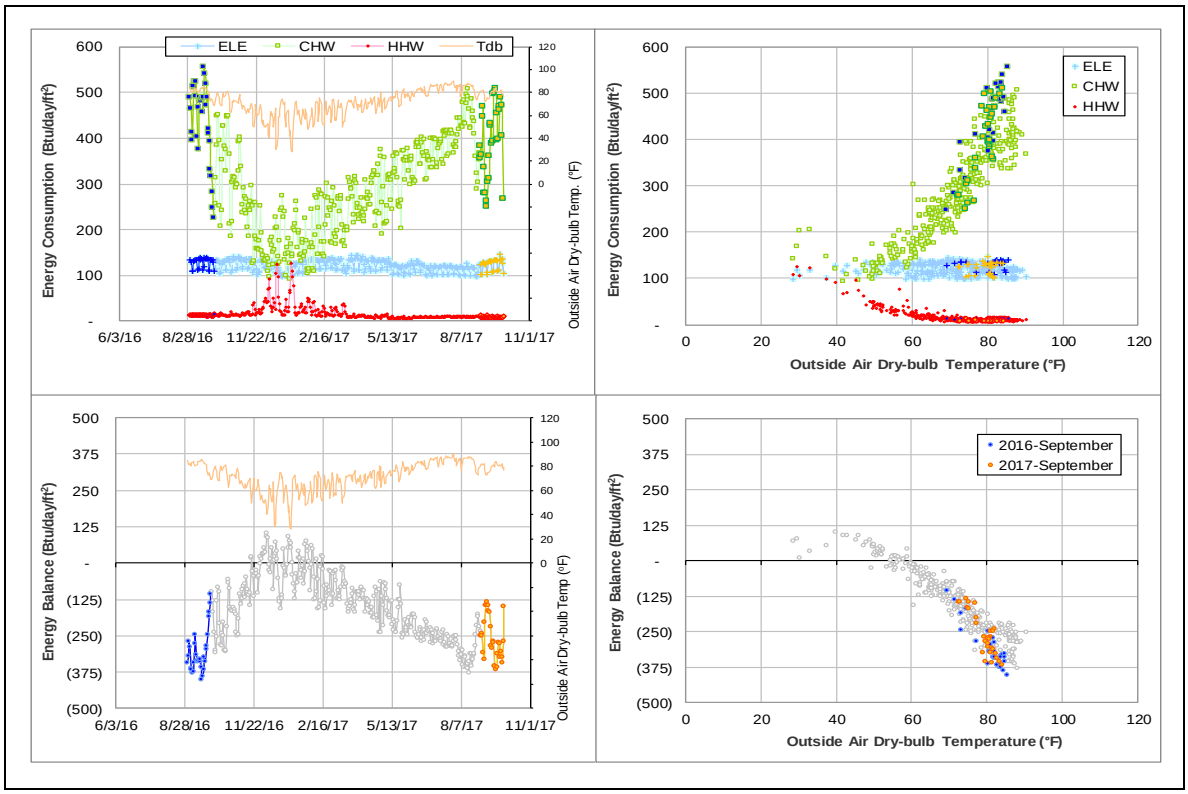
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance level has been low for years. The cross-point temperature was in the range of 40 - 70 °F.	For several years
CHW	The consumption pattern changed.	Since July 2016

Comments

The energy balance load (E_{BL}) of this building has varied but always been low (the cross-point temperature was between 40°F and 70°F) for years. CHW consumption increased greatly on 7/21/2016 and switched to a new pattern with a steeper slope. The cross-point temperature is around 55°F which has been stable for one year but it is still a little low.

Explanatory Figure: 13 months energy balance plot with original data



Underwood Residence Hall (TAMU Bldg #394)

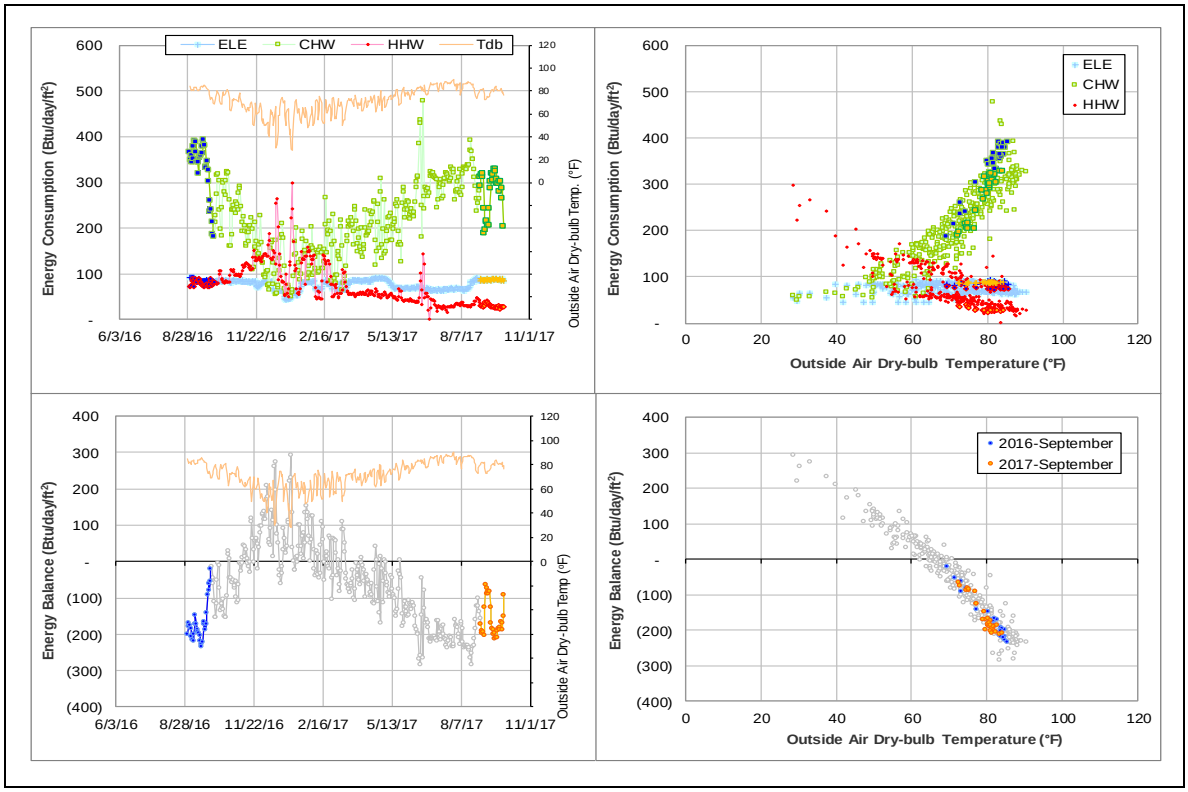
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption pattern is unstable.	9/1/2016 - ongoing
HHW	The consumption pattern is unstable.	9/1/2016 - ongoing

Comments

The CHW and HHW consumption has decreased since the data return in September 2016. There seem to be two different patterns forming. More data is needed to see how the pattern develops.

Explanatory Figure: 13 months energy balance plot with original data.



Langford Architecture Center Building A (TAMU BLDG #398)

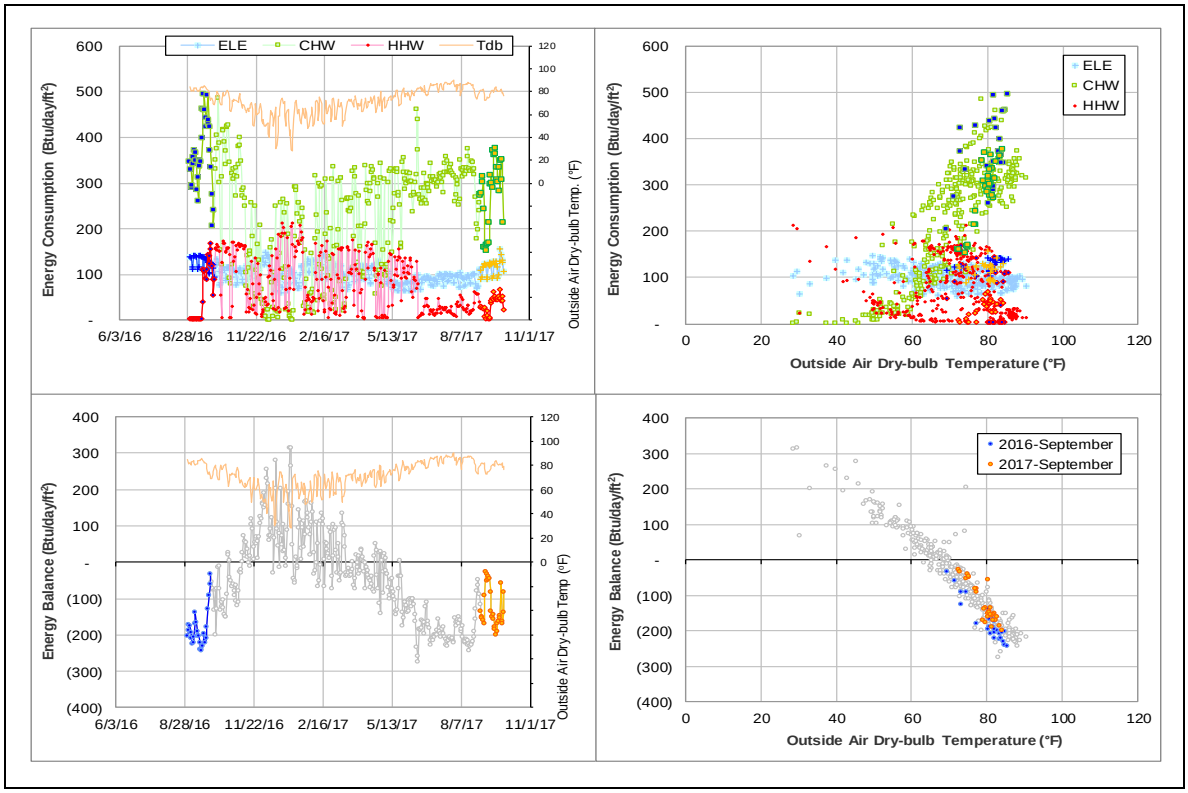
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW and HHW	The consumption has been fluctuating greatly.	For several years

Comments

CHW and HHW consumption has been unstable for several years. HHW flow rate can be seen going up and down between a maximum level and a very low level. The energy balance, however, is not disturbed during these fluctuations.

Explanatory Figure: 13 months energy balance plot with original data



Legett Residence Hall (TAMU BLDG #419)

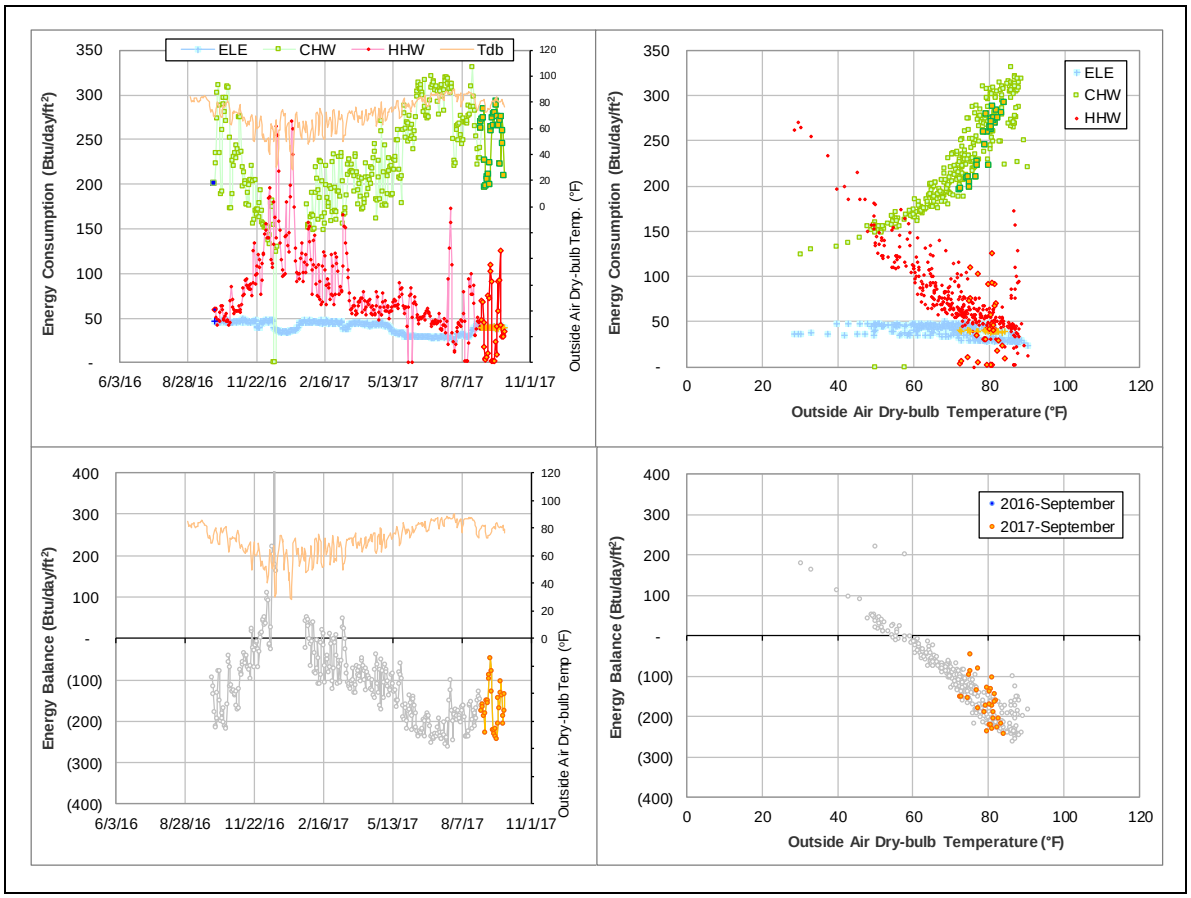
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption decreased after the missing period.	Since October 2016
CHW	The consumption increased after the missing period.	Since October 2016
HHW	The consumption decreased after the missing period.	Since October 2016
EB	The cross-point moved from 68°F to 55°F.	Since October 2016

Comments

After the missing period from May to October 2016, ELE and HHW consumption decreased and CHW consumption increased. EB cross-point moved from 68°F to 55°F since then.

Explanatory Figure: 13 months energy balance plot with original data (The plot is rescaled to remove the spikes.)



Dunn Residence Hall (TAMU Bldg #442)

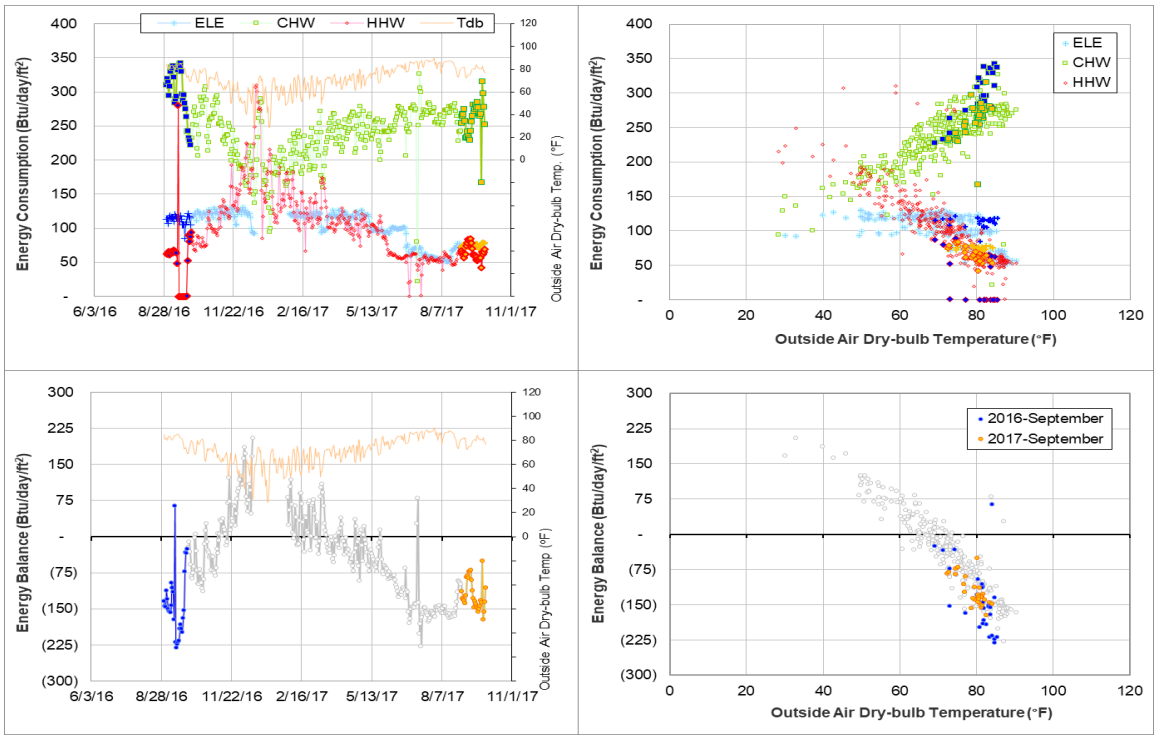
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE/CHW/HHW	The consumption pattern has changed.	July 2017 – Ongoing

Comments

The consumption pattern for ELE, CHW, and HHW appeared to have changed starting around July 2017. The ELE pattern from July to mid-August was 30 Btu/day/ft^2 (34%) lower than last year. With the start of the semester, the ELE pattern only increased to a 75 Btu/day/ft^2 range, which is 37 Btu/day/ft^2 (33%) lower than last year. The CHW pattern decreased by 42 Btu/day/ft^2 and the HHW pattern decreased by 15 Btu/day/ft^2. This decrease in CHW and HHW may relate to a decrease in flow rate. We would like to know if there has been any operational change for this building.

Explanatory Figure: 13 months energy balance plot with original data.



Teague Research Center (TAMU Bldg #445)

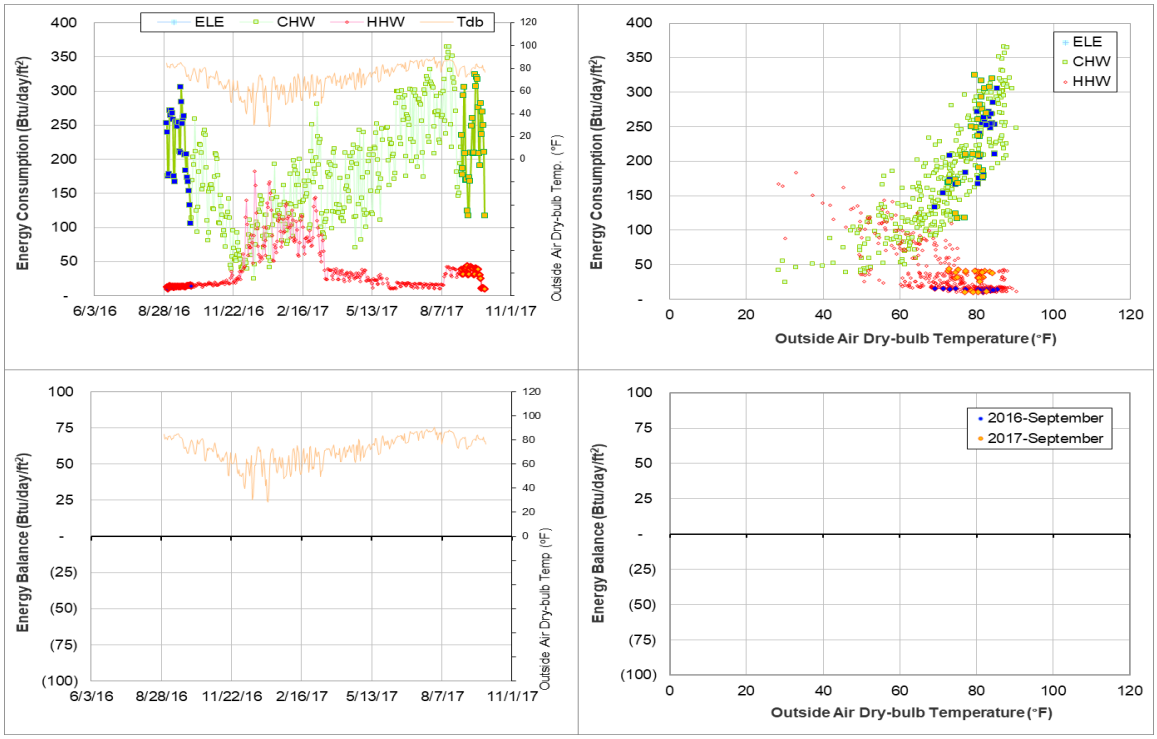
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption pattern has changed.	8/12/2017 – 9/25/2017

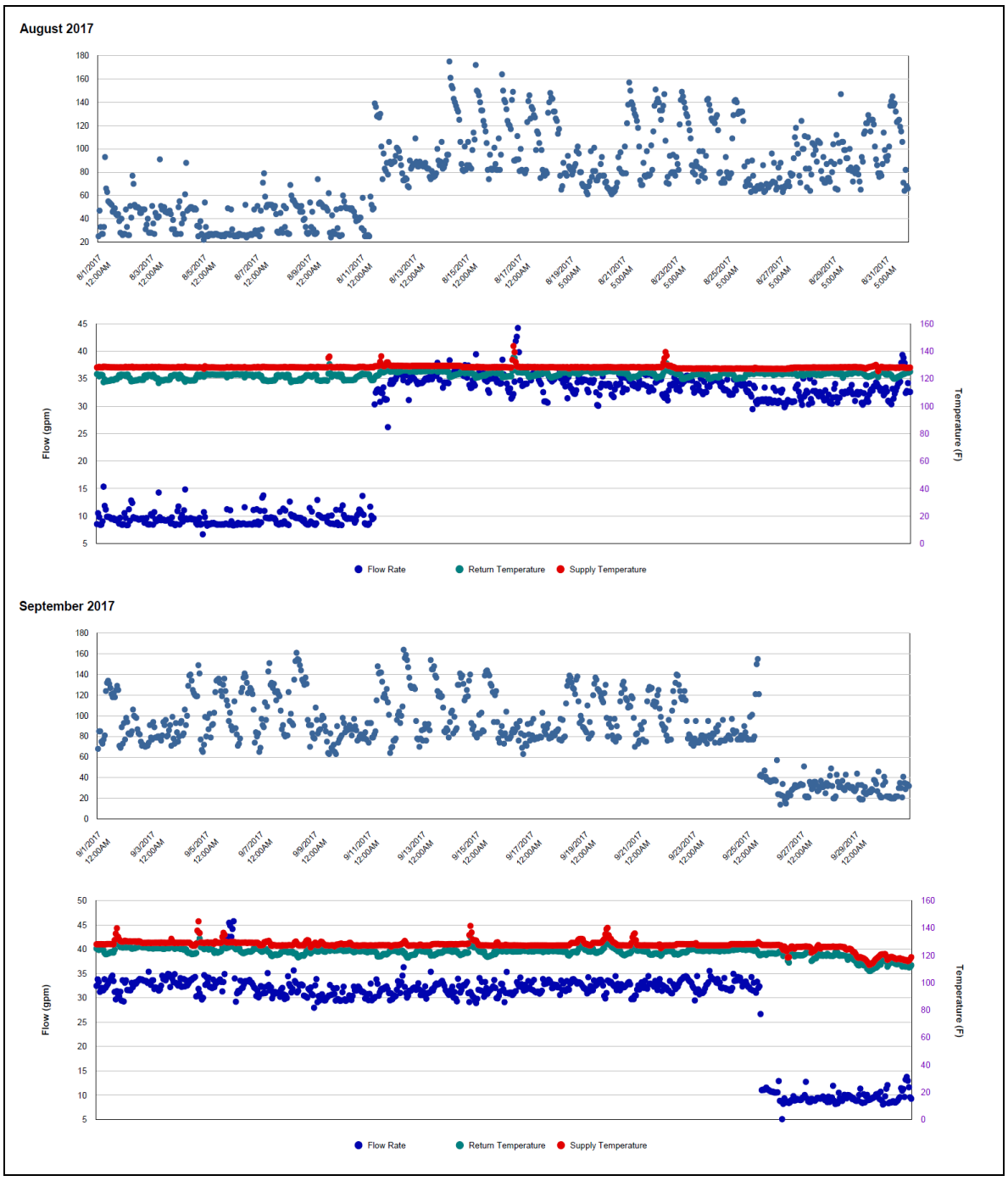
Comments

The HHW consumption pattern appears to have changed starting 8/12/2017. The pattern has started to show a weekday/weekend setback. In the higher outside temperatures, the new weekday consumption is twice as much as that of the same month last year (approximately a 20 Btu/day/ft^2 increase) and the weekend consumption level is similar to that of the same month last year. On 9/25/2017, the flow rate decreased back to the level prior to 8/12/2017 and the weekday/weekend setback is not as apparent.

Explanatory Figure: 13 months energy balance plot with original data.



Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during August 2017 (top) and September 2017 (bottom))



Psychology Building (TAMU Bldg #463)

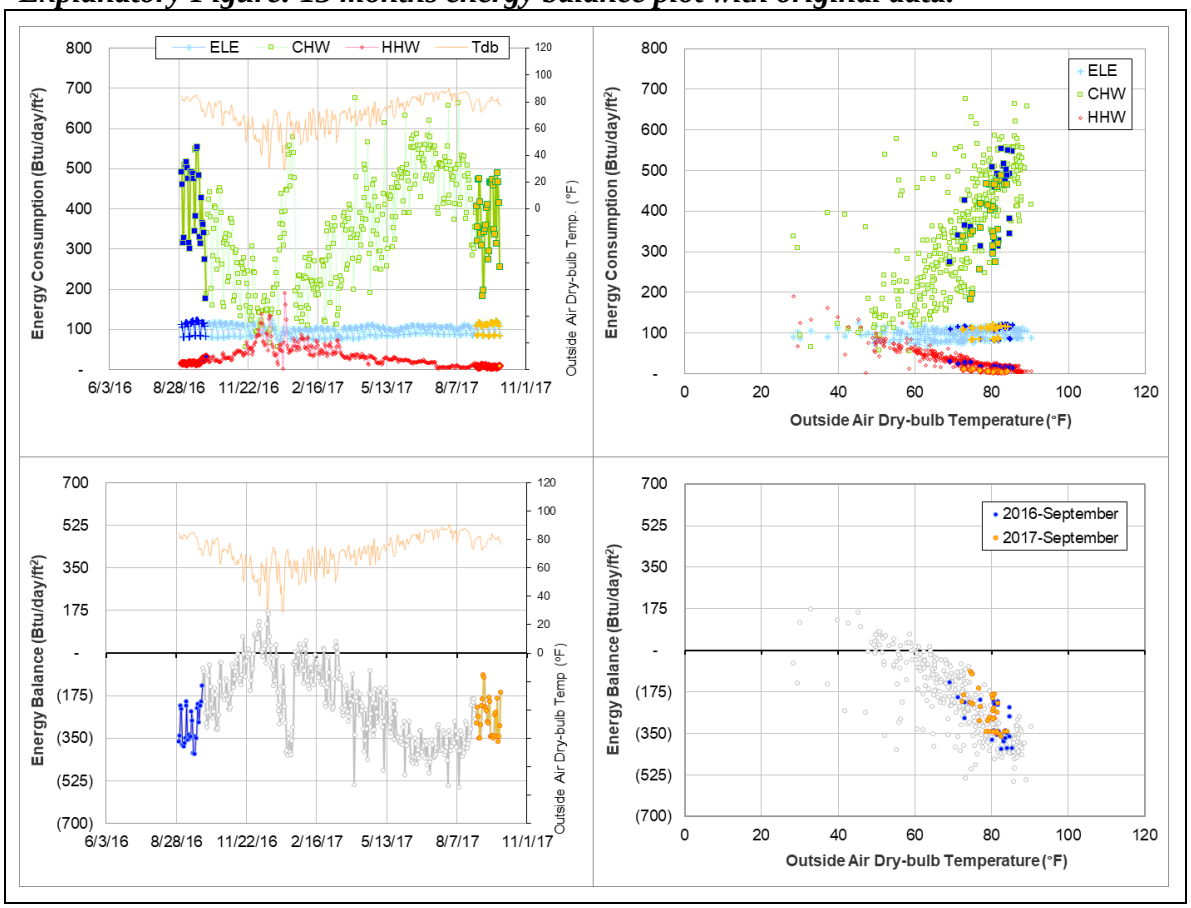
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy balance	The energy balance cross-point temperature is low.	Starting in 2015
CHW	The consumption pattern versus ambient temperature scatters.	Ongoing after ESCO implementation in 2011

Comments

The CHW consumption pattern versus ambient temperature started to scatter after ESCO implementation in 2011. The scatter started to decrease and a weekday/weekend pattern appeared in 2016. The cross-point temperature for this building over the past three years has been low with a range from 50 – 60 °F. More information is needed to determine the cause of the low temperature range.

Explanatory Figure: 13 months energy balance plot with original data.



State Chemist Building (TAMU Bldg #464)

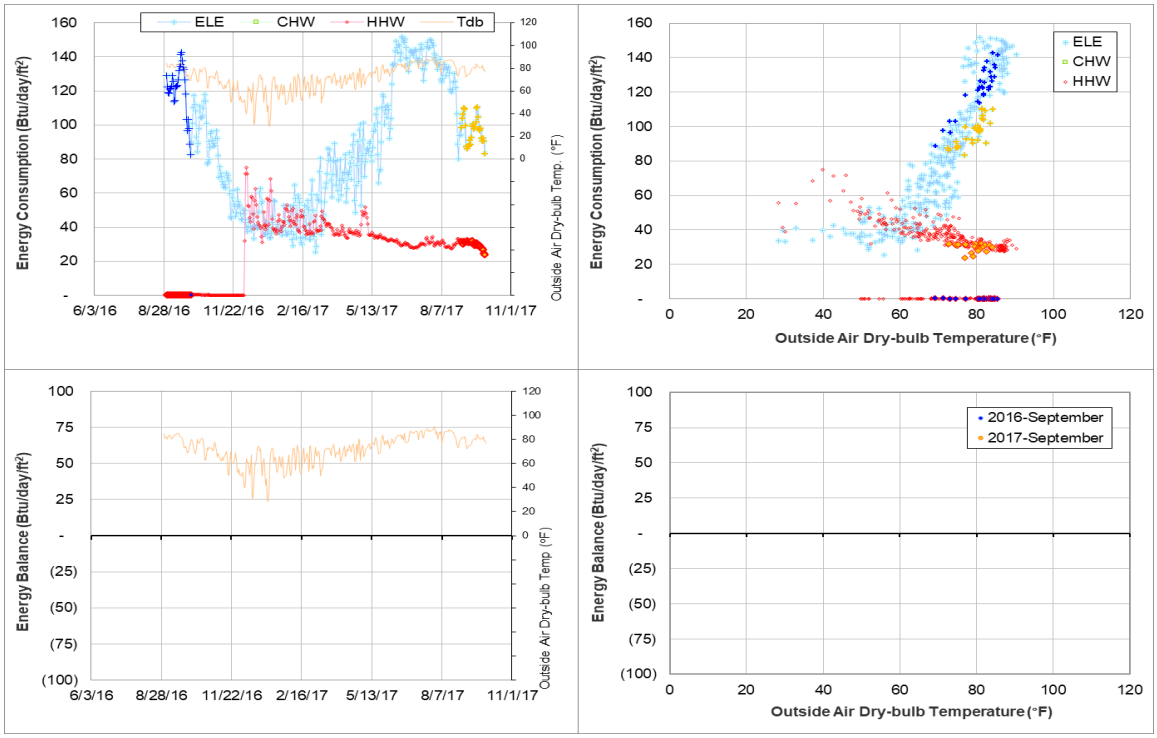
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption level decreased especially in low temperature ranges.	11/20/2016 – 6/7/2017
ELE	Scattering data are observed.	6/7/2017 – Ongoing

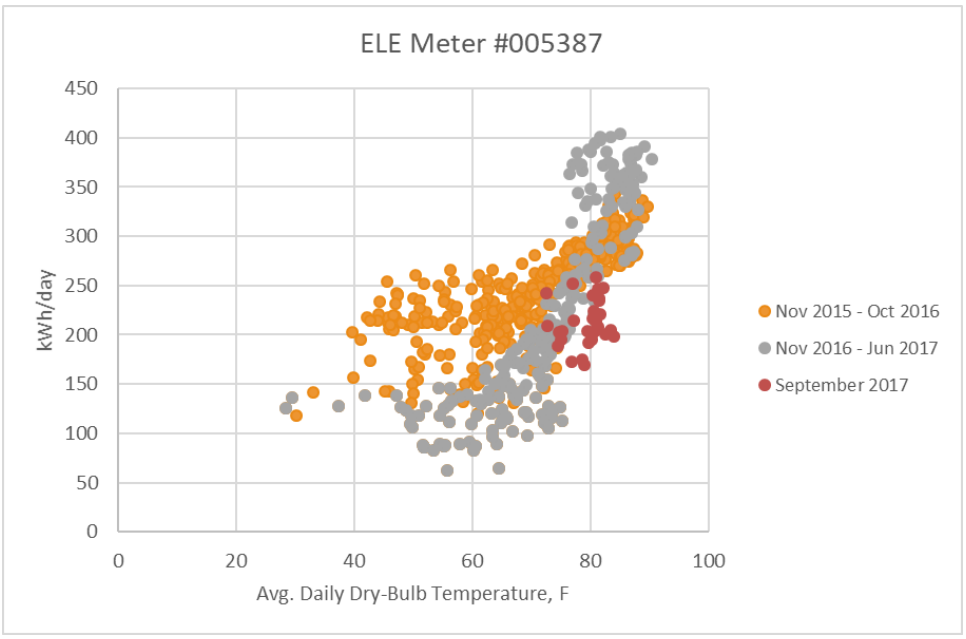
Comments

There are two ELE meters (#005837 and #005839) for this building. Starting in November 2016, the level for meter #005837 has decreased and the data appears scattered. Compared to April 2016, the average daily kWh for April 2017 has decreased by ~60 kWh. The decrease in this meter can be masked in the 13-month plot that shows the total of the two ELE meters combined. Recently, starting 6/7/2017, the average daily kWh increased by ~100 kWh compared to the consumption pattern before November 2016. Explanatory figures showing the change before and after November 2016 are provided below. Since the combined electric consumption is within the 13-month pattern this month, no estimation was made.

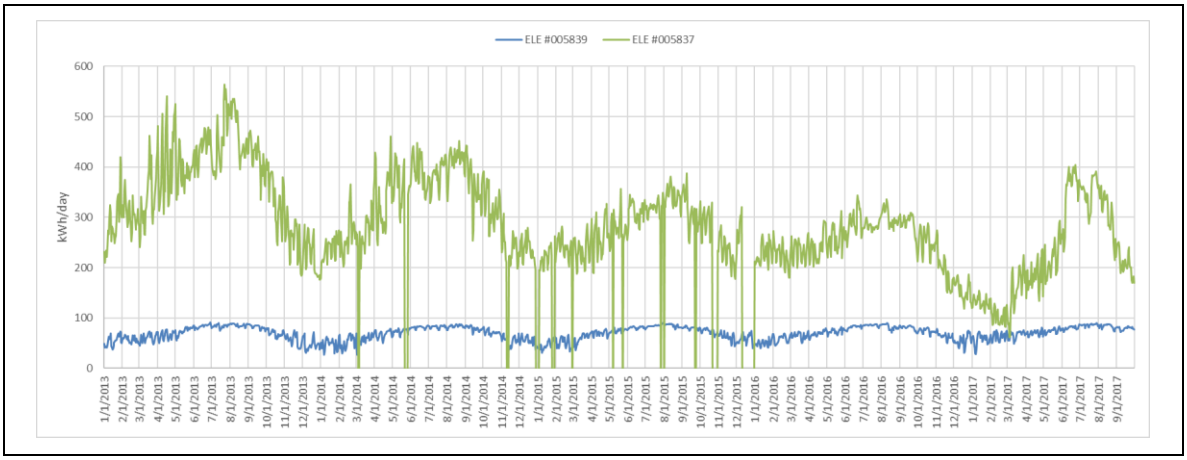
Explanatory Figure: 13 months energy balance plot with original data.



Explanatory Figure: Scatter plot of daily ELE energy consumption for meter #005837 versus outside dry-bulb temperature.



Explanatory Figure: Times series plot of hourly ELE energy consumption for meter #005837 (green) and #005839 (blue) for Jan 2013 through Sep 2017.



Fermier Hall (TAMU Bldg #482)

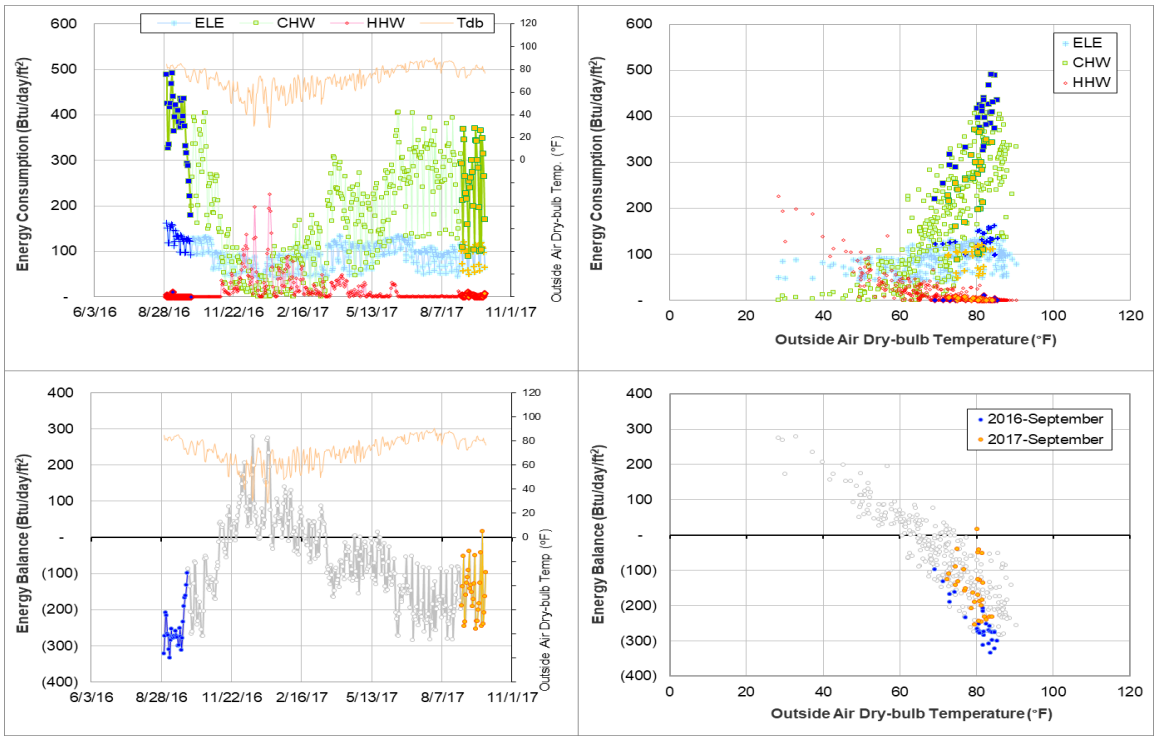
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW/HHW	The consumption level has significantly decreased.	6/24/2016 – Ongoing

Comments

CHW and HHW of this building decreased significantly in steps since 6/24/2016. Since the energy balance plot has retained its pattern up to 12/23/2016, the drop may be due to a decrease in usage. The CHW consumption during winter break (12/23/2016 – 12/31/2016) is lower than the recent pattern but does not appear to be a meter issue. This building is on the list for ESCO, and the decrease in consumption level could be related.

Explanatory Figure: 13 months energy balance plot with original data.



Chemistry Building (TAMU Bldg #484)

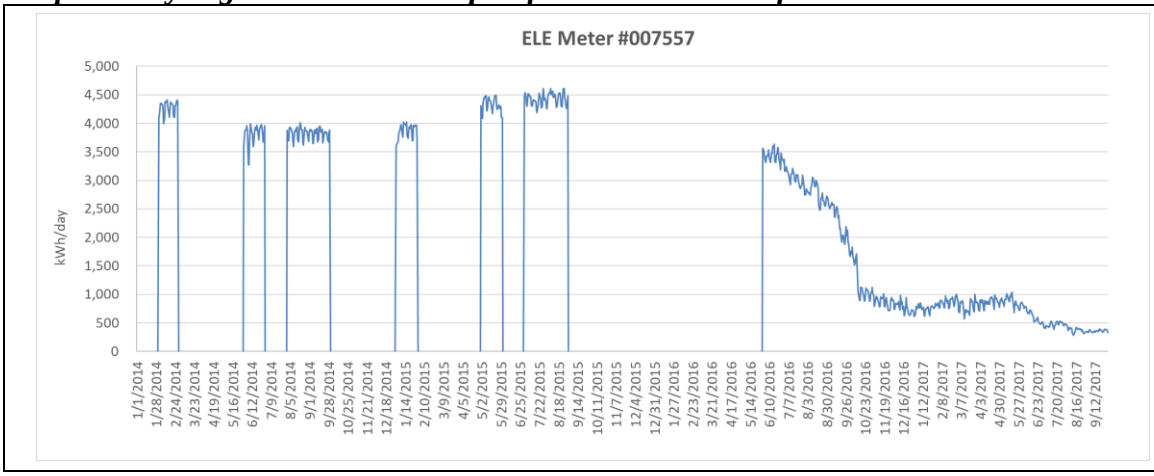
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE #007557	The ELE consumption level has decreased significantly for meter #007557.	6/1/2016 – Ongoing
ELE #007152	The consumption level is increasing gradually for meter #007152.	6/3/2017 – Ongoing

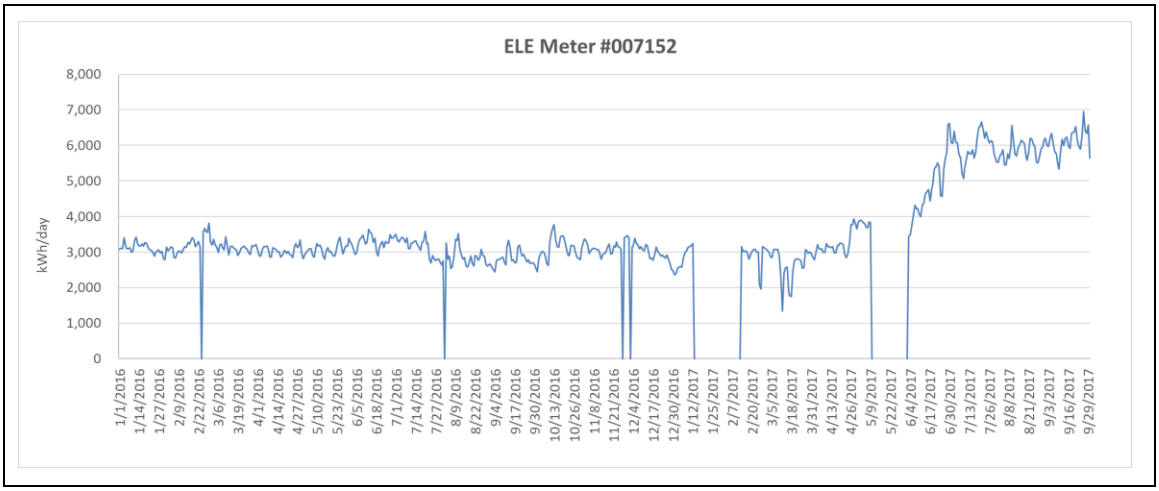
Comments

Two of the four ELE meters for this building experienced a change in energy consumption level. ELE meter #007557 consumption decreased gradually during 6/1/2016 – 8/31/2016 by over 2000 kWh/day and then decreased further on 6/17/2017 by another 500 kWh/day. ELE meter #007152 consumption gradually increased after a missing period (5/10/2017 – 6/2/2017) by about 3000 kWh/day.

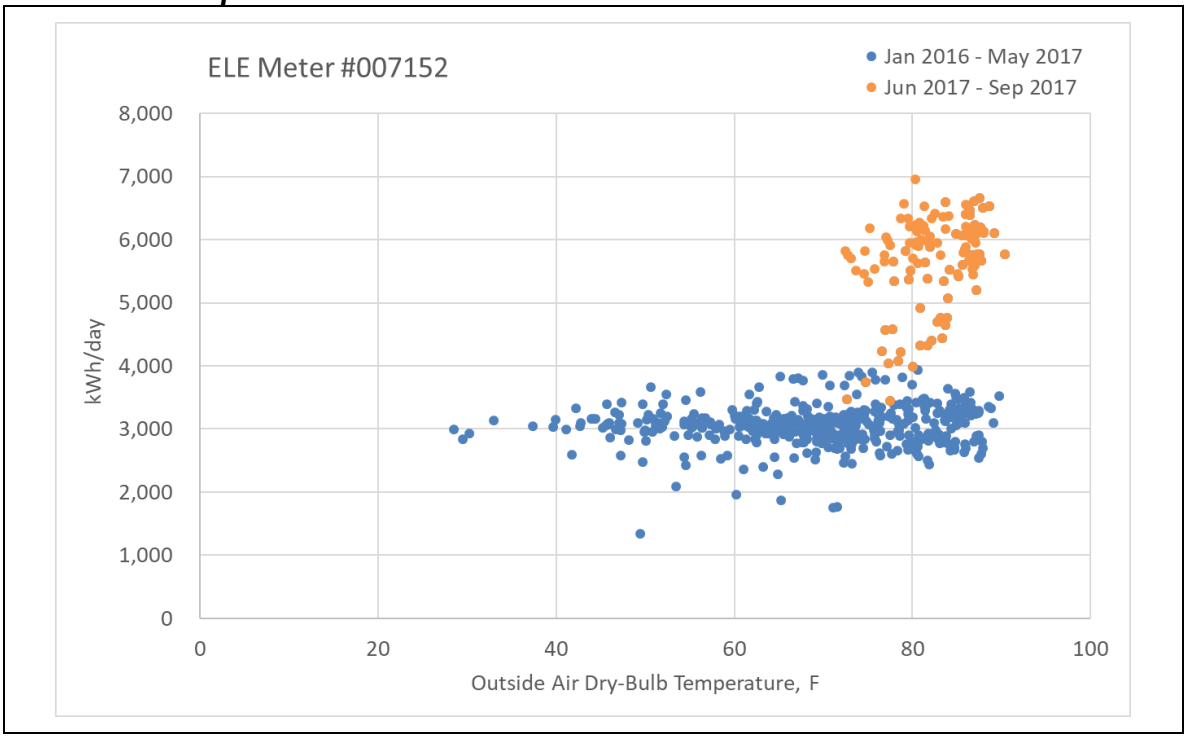
Explanatory Figure: Times series plot for meter #007557 from 1/1/2014 – 9/30/2017.



Explanatory Figure: Time series plot of electric meter #007152 from 1/1/2016 – 9/30/2017.



Explanatory Figure: Scatter plot of kWh/day versus outside air temperature for electric meter #007152 from 1/1/2016 – 8/31/2017.



Civil Engineering Building (TAMU Bldg #492)

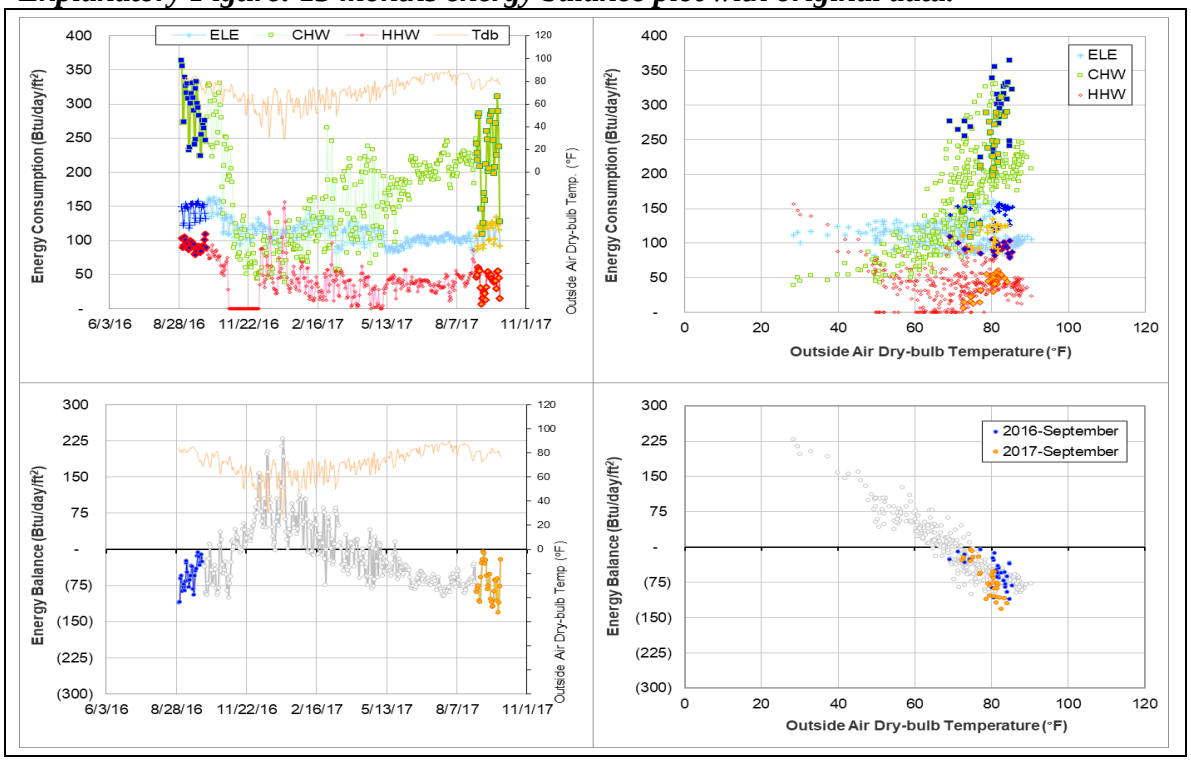
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE/CHW/HHW	The consumption level decreased.	10/29/2016 – Ongoing

Comments

Starting 10/29/2016, the ELE, CHW, and HHW consumption levels decreased and continued to remain low. Excluding HHW meter issue from 10/29/2016 – 12/7/2016 (zero flow rate and near zero delta-T), the lower consumption levels may be due to ESCO.

Explanatory Figure: 13 months energy balance plot with original data.



DPC Annex (TAMU Bldg #517)

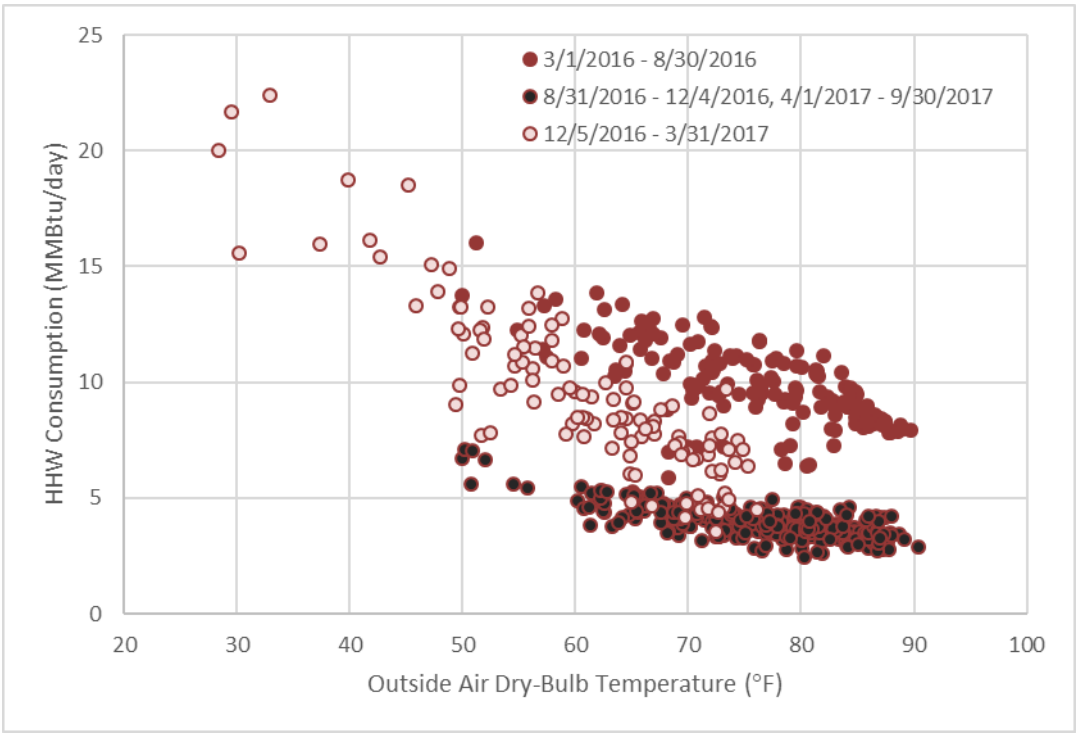
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The HHW consumption level decreased.	8/31/2016 – Ongoing

Comments

Starting 8/31/2016, the HHW consumption level decreased dropping clearly below the main pattern until 12/4/2016. The data from 12/5/2016 to 3/31/2017 appears between the main pattern and the lower pattern. However, starting April 2017 the data returned to the lower pattern. This does not appear to be a meter issue. More data is needed to see how the pattern continues.

Explanatory Figure: Energy consumption versus outside air dry-bulb temperature.



Utilities & Energy Services Central Office (TAMU Bldg #496)

Detected issues in the energy balance and/or the consumption data

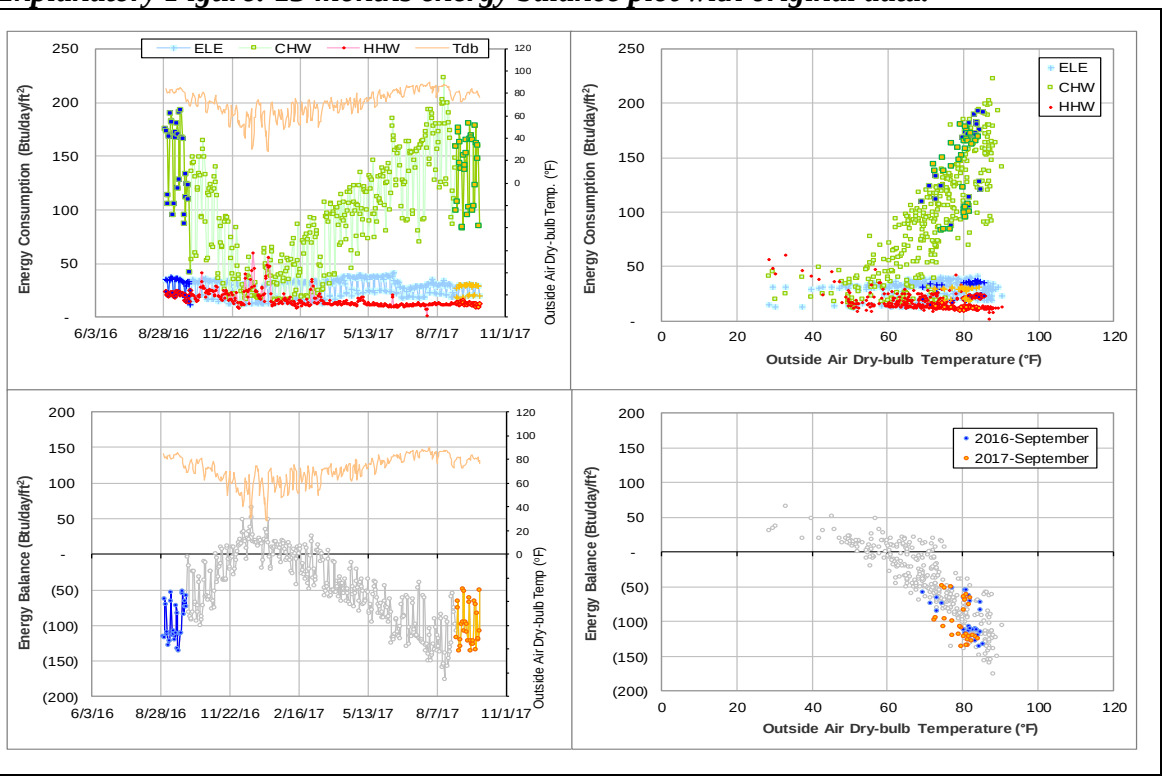
Data Type	Description of data behaviors	Period
ELE, CHW, and HHW	The energy use per unit floor area is low compared to other buildings.	Since the data became available on 7/1/2012

Comments

The peak electric use intensity is around 0.65 W/ft^2, which is small for an office building on campus. The delta-T for HHW seems to be small for years. The CHW and HHW consumption per unit floor area also seem to be low. It is possible that the GSF on file (46,110 ft^2) includes substantial unoccupied or unconditioned areas. The CHW consumption during the winter break period (12/23/2016 – 12/31/2016) is lower than previous winter break periods but does not appear to be a meter issue.

The energy balance scatter is due to the consumption level changes for CHW and HHW. The cross-point temperature of the energy balance is in the range of 50 to 75°F.

Explanatory Figure: 13 months energy balance plot with original data.



Engineering Innovation Center (TAMU Bldg # 499)

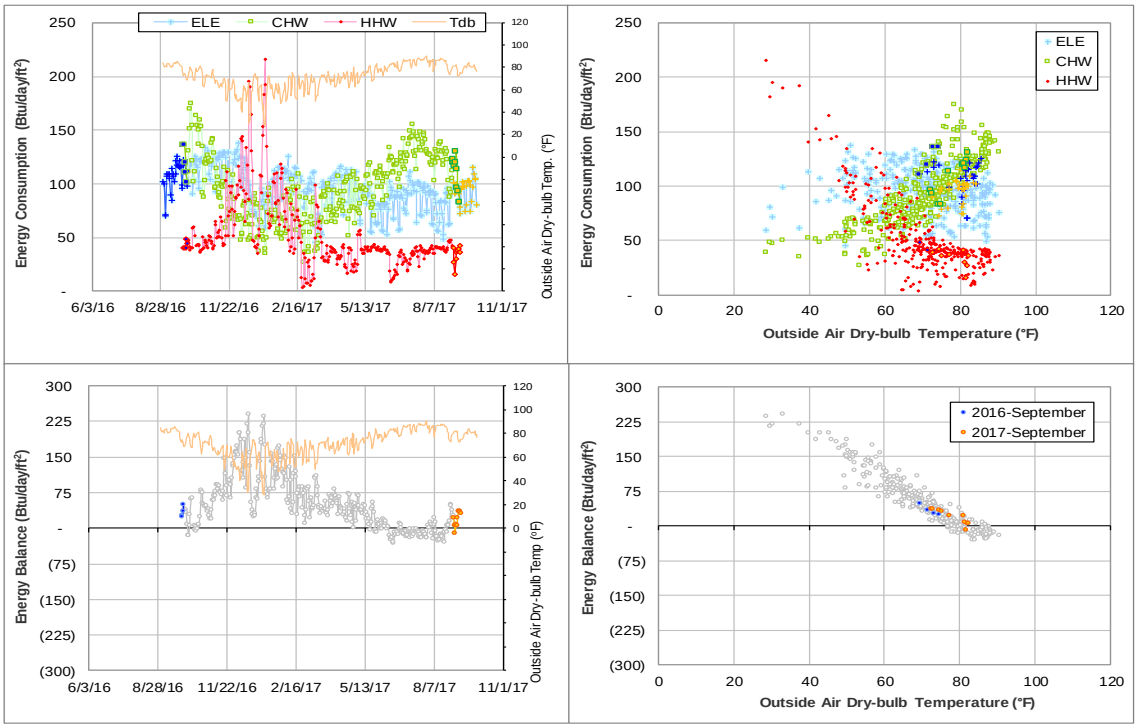
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is high, around 80°F.	For years
CHW	The consumption level is low compared to the ELE and HHW consumption.	For years

Comments

The cross-point temperature of energy balance for this building is high, around 80°F. The CHW consumption is relatively low when compared to the ELE and HHW consumption and could be the reason for the high cross-point temperature.

Explanatory Figure: 13 months energy balance plot with original data.



Nagle Hall (TAMU Bldg #506)

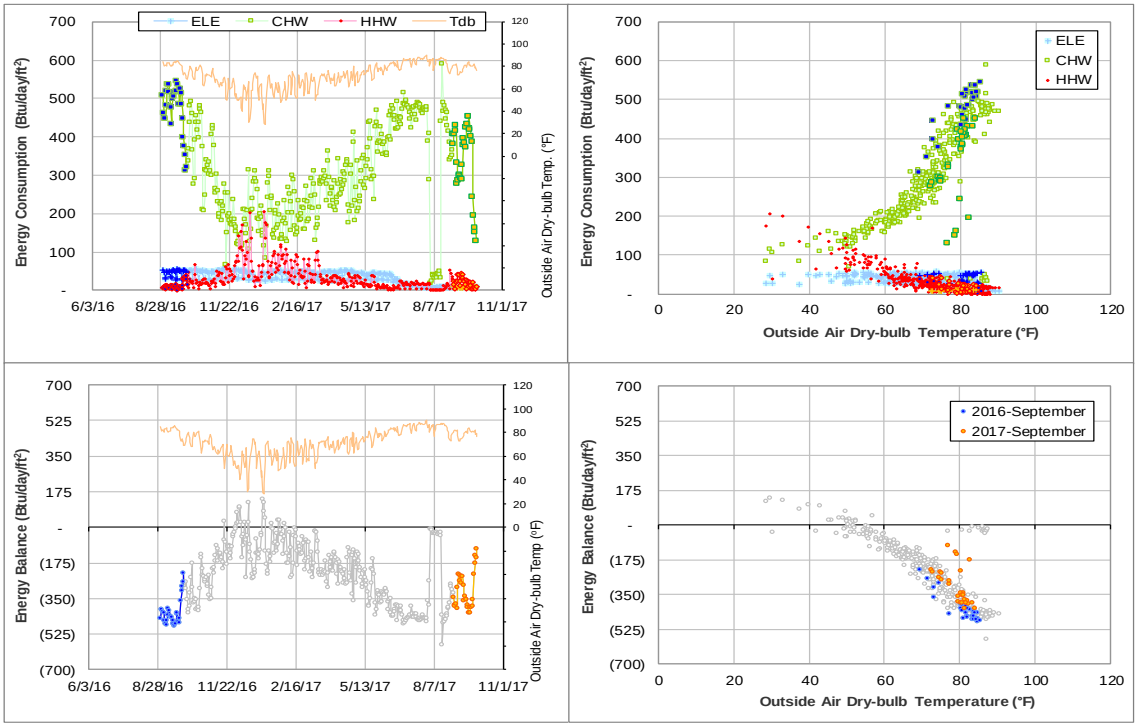
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The level was low and the cross-point temperature is around 50°F.	Since the data became available
ELE	The consumption per unit floor area is smaller than those for other similar office buildings, and has been decreasing gradually in the past 4 years.	Since the data became available

Comments

The ELE consumption is lower than 50 Btu/day/ft^2, lower than the typical level of 100 Btu/day/ft^2 for office buildings on campus. This meter might not cover the whole building or it is erroneously factored. See also II-2.

Explanatory Figure: 13 months energy balance plot with original data



Heep Laboratory Building (TAMU Bldg #511)

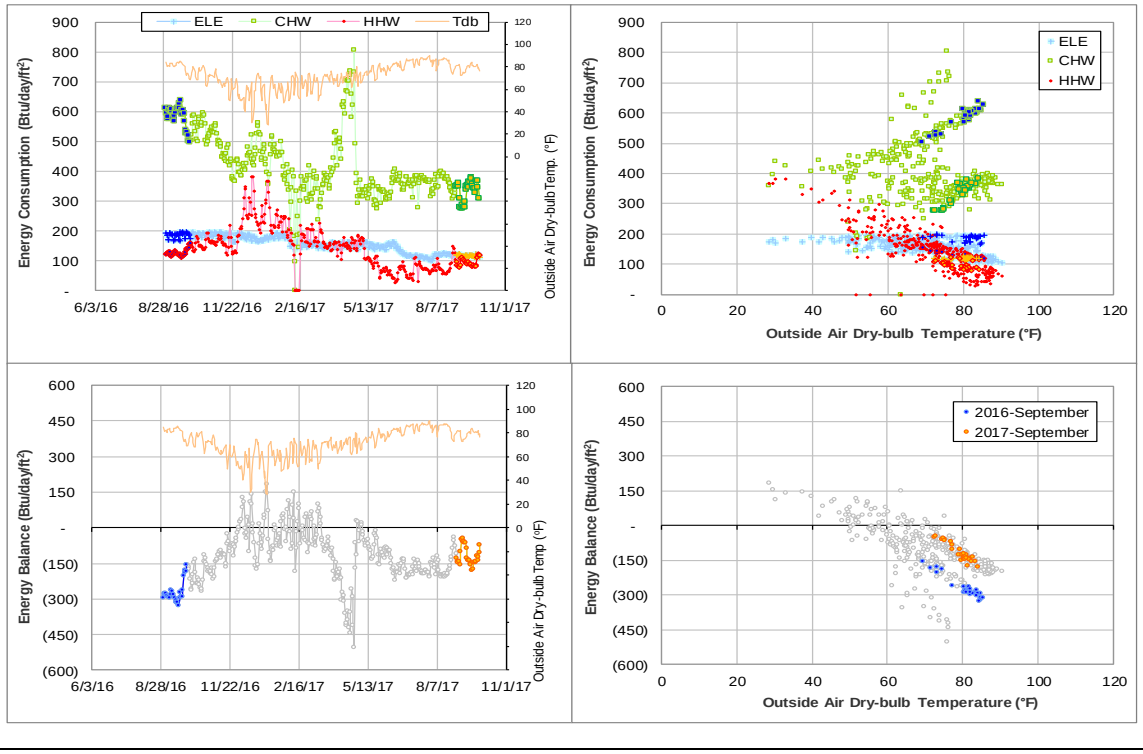
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption is decreasing gradually.	Since February 2017

Comments

The ELE consumption gradually slided down from near 200 Btu/day/ft^2 at the beginning of February 2017 to about 160 Btu/day/ft^2 at the beginning of May 2017. The consumption level further dropped to 110 – 120 Btu/day/ft^2 during summer. There is no identified cause of this change. See also II-2.

Explanatory Figure: 13 months energy balance plot with original data



Blocker Building (TAMU Bldg #524)

Detected issues in the energy balance and/or the consumption data

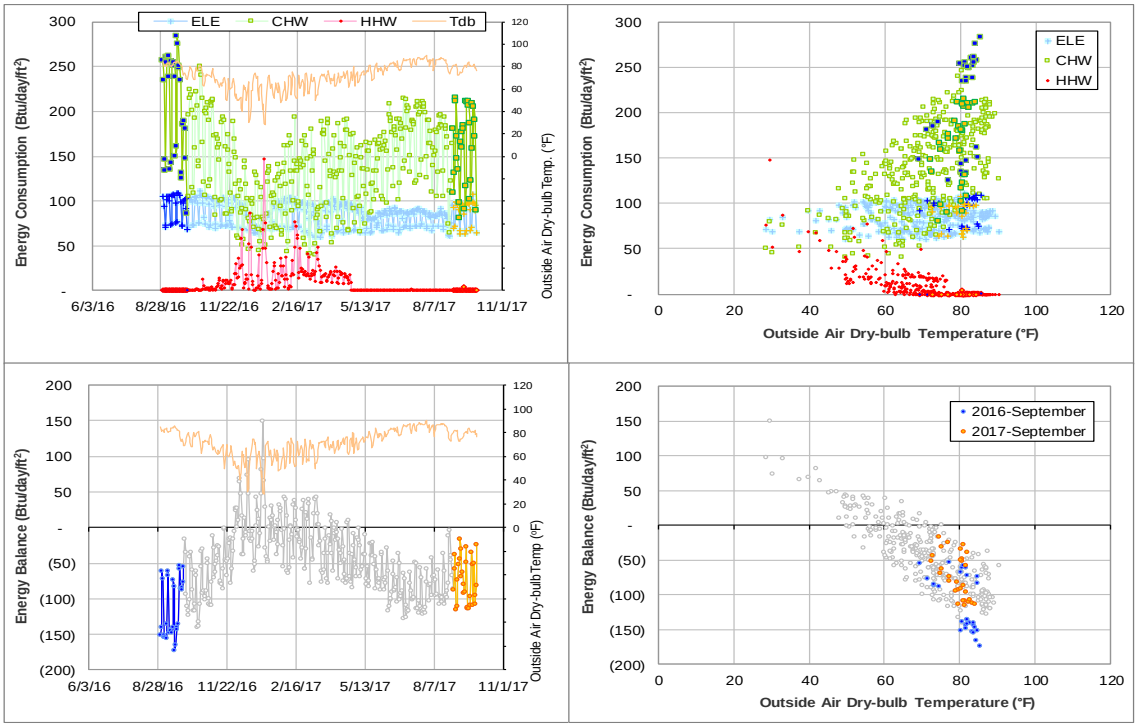
Data Type	Description of data behaviors	Period
CHW	The consumption decreased and is about 50 Btu/day-ft^2 (25%) lower than the level of the past year.	Since May 2017
HHW	The consumption level is low.	Past several years

Comments

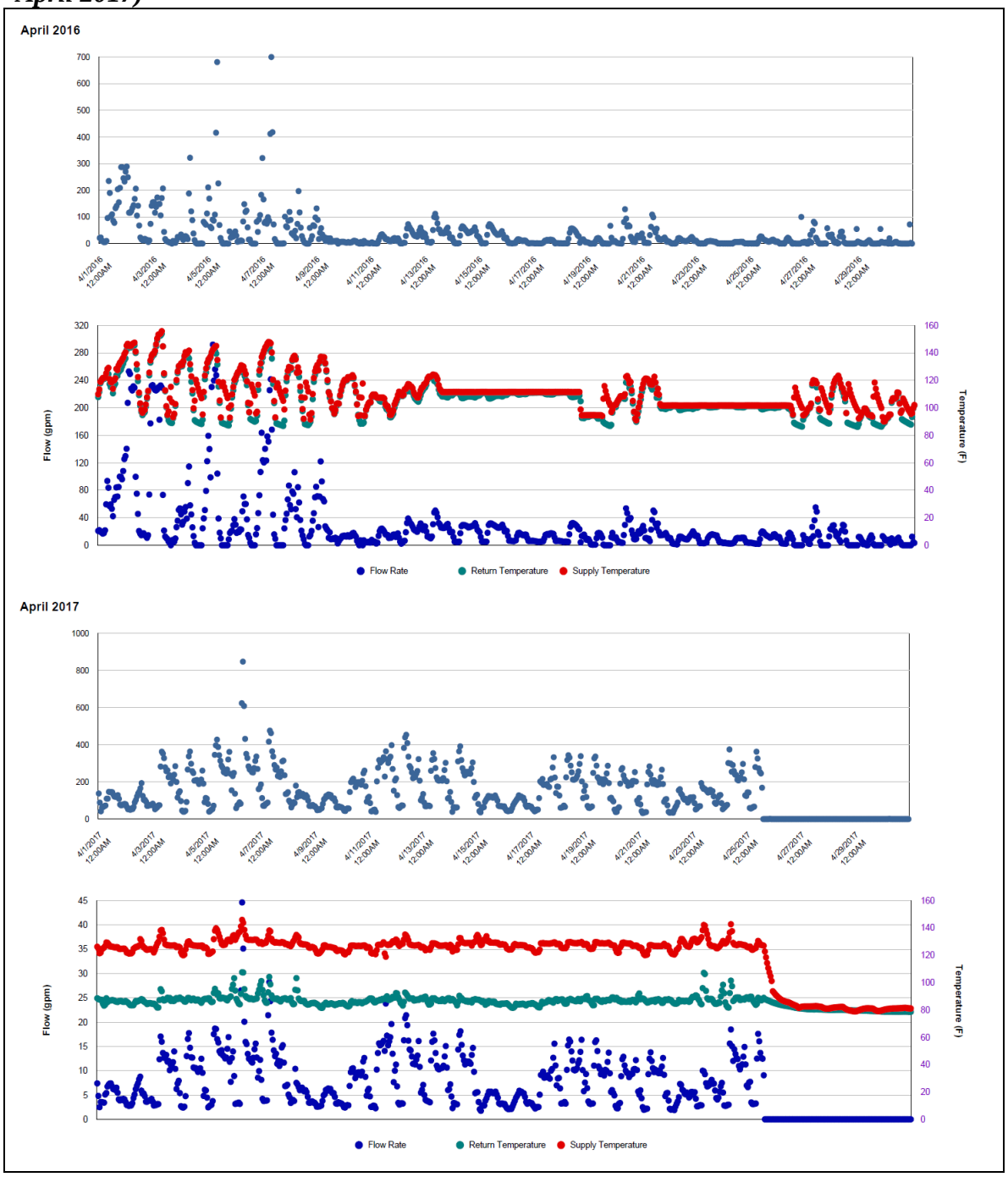
The cross-point of temperature of energy balance had been lower than 60°F for years. But the recent decrease of CHW pulled energy balance up and now it crosses between 60 and 70°F.

The delta-T and consumption level for HHW seemed low for the past couple of years and started to change in an unstable fashion in February 2017. The explanatory figures below show the change in Delta-T of April 2016 and April 2017. HHW seemed closed off since the end of April. This increase also contributed to the higher and more reasonable cross-point of energy balance. It continues to seem closed off during the non-heating season.

Explanatory Figure: 13 months energy balance plot with original data



Explanatory Figure: Time series plots of hourly HHW energy consumption, flow rate, and supply and return temperatures from the utilities office. (Top: April 2016; Bottom: April 2017)



McNew Laboratory (TAMU Bldg #740)

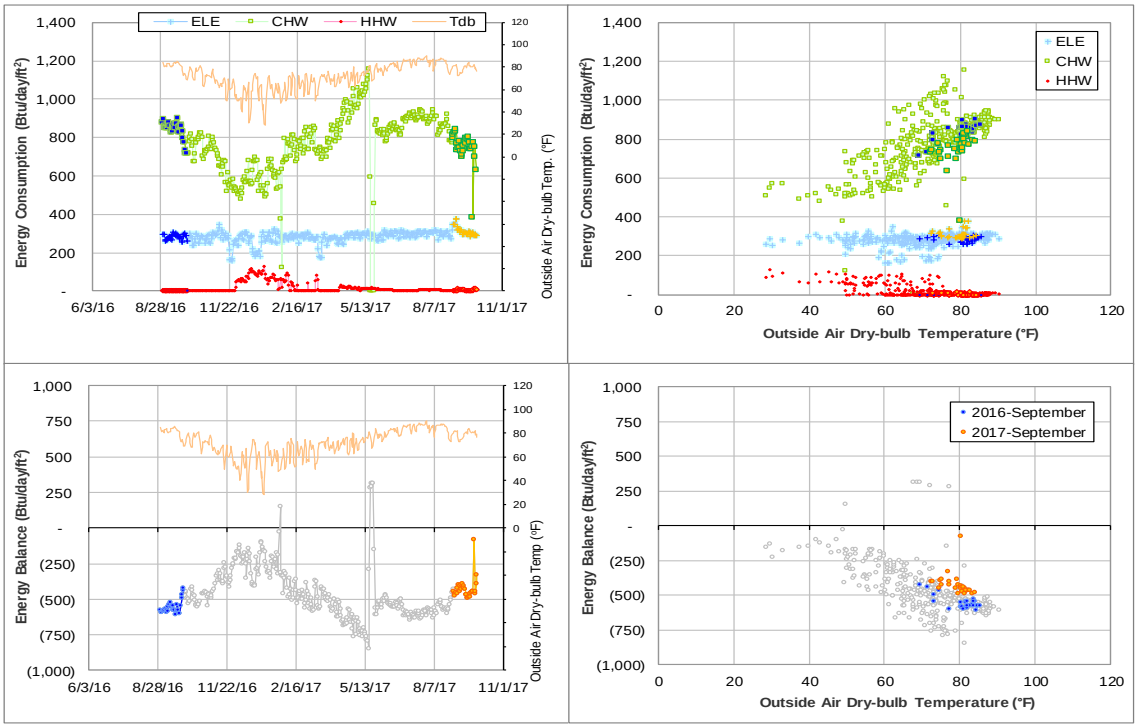
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance pattern level is low.	Past several years
HHW	The consumption level seems low.	Past several years

Comments

The energy balance level has consistently been low and does not even reach a cross-point temperature. Since 2013, there has been a large decrease in HHW use. After that, HHW consumption decreased gradually year by year. Recently, the CHW has increased starting February 2017, causing the energy balance to reduce even more. More information is needed to help identify the reason causing the low energy balance for this building.

Explanatory Figure: 13 months energy balance plot with original data



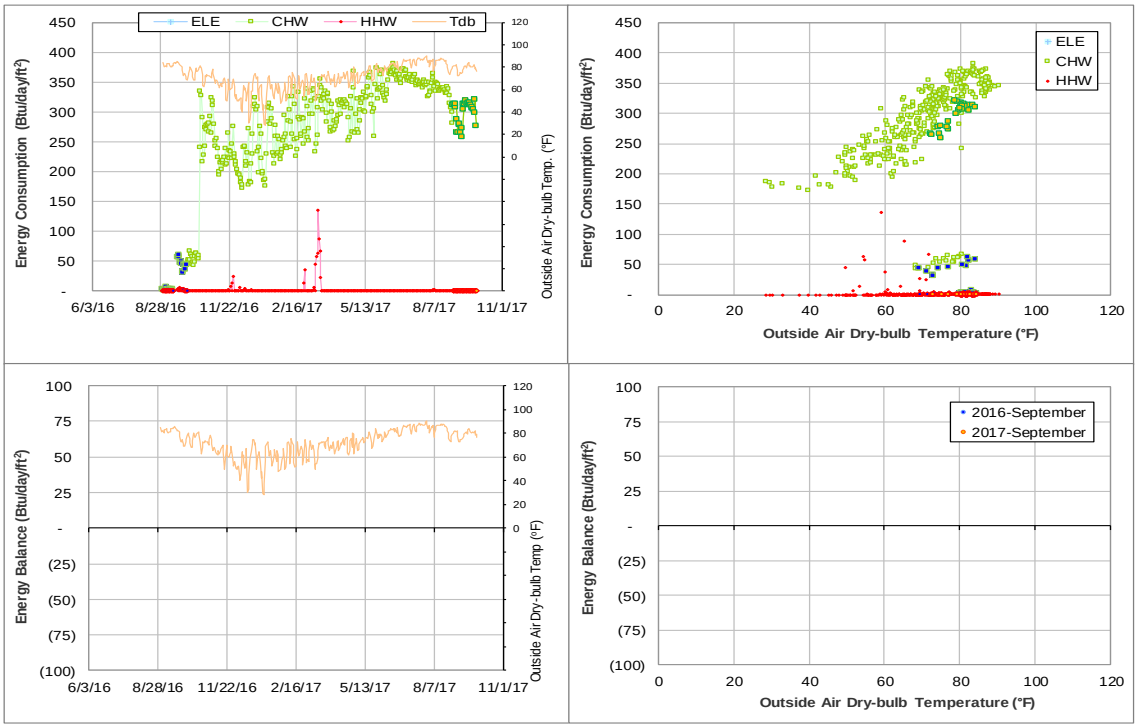
TVMC-Small Animal Building (TAMU Bldg# 880)

Data Type	Description of data behaviors	Period
HHW	The daily consumption is zero or nearly zero for the majority of the days during the year.	Since the data became available in October 2008

Comments

The daily HHW consumption pattern is zero or nearly zero for the majority of the days for years. Because the HHW consumption level appears unstable since the data became available, a valid consumption model for this meter has not been created.

Explanatory Figure: 13 months energy balance plot with original data



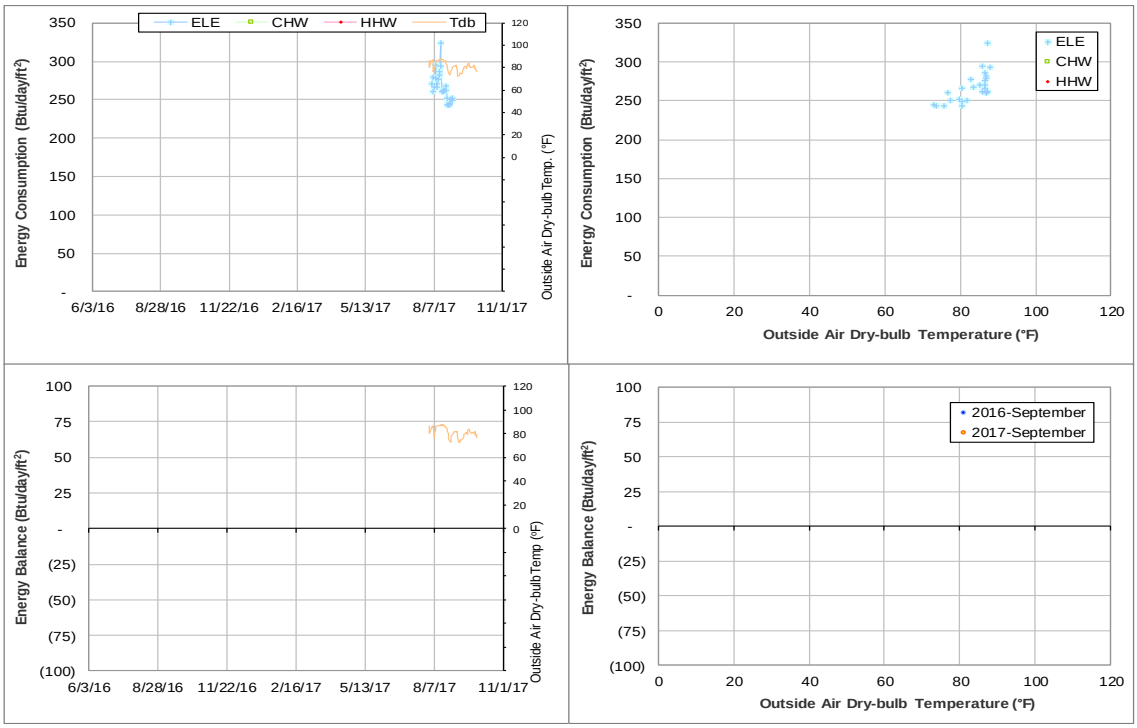
Dollar Data Center (TAMU Bldg# 971)

Data Type	Description of data behaviors	Period
ELE	The consumption level appears to be too low for a data center.	Since the data became available in August 2017

Comments

The only data available are readings of 8/1/2017 – 8/31/2017 so far. The total ELE consumption level of this building is 267 Btu/day/ft^2, which is too low as a data center.

Explanatory Figure: 13 months energy balance plot with original data



Physical Plant Administration & Shops (TAMU Bldg# 1156)

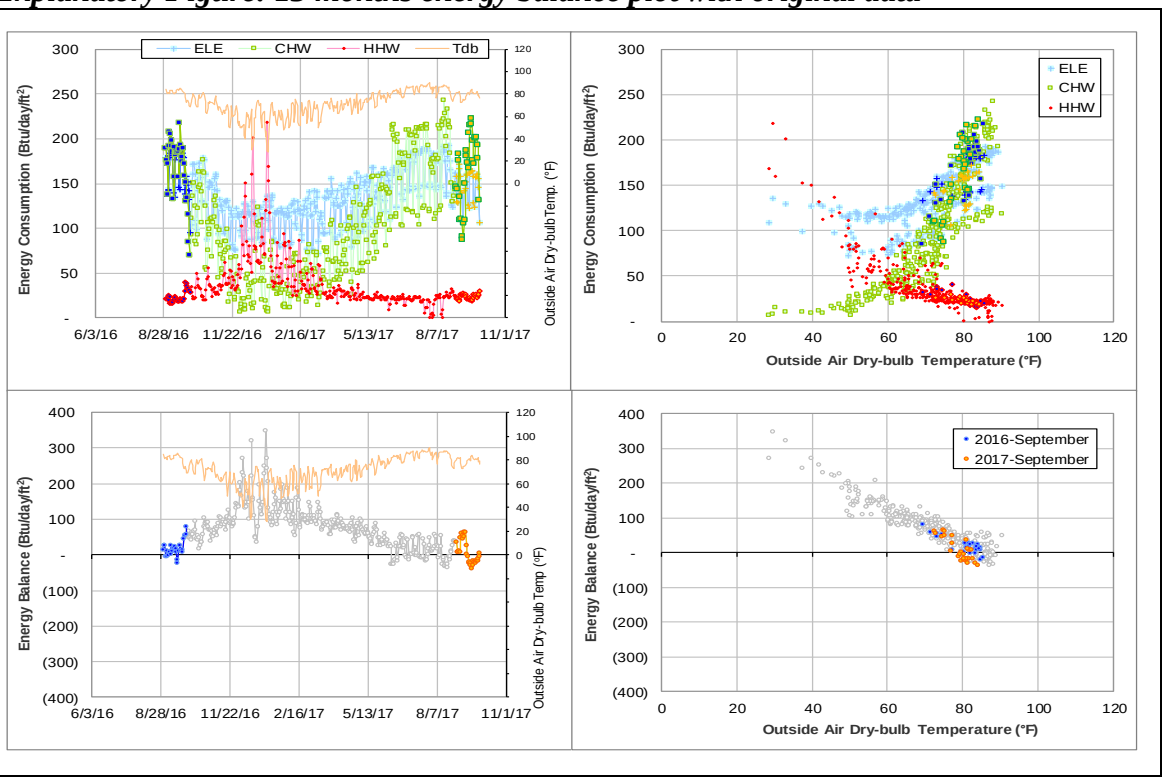
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is as high as 85°F.	Since 7/1/2014 when ELE became available
CHW	The consumption level seems low compared to the ELE and HHW use level.	Since the data became available on 7/1/2012.
	The weekend level decreased to farther from weekday level.	Since 2017.

Comments

The electricity is not available until 7/1/2014. CHW consumption level seems low compared to the ELE and HHW use level, but the CHW consumption has a clean and stable pattern since the data became available on 7/1/2012. More information is needed to identify which type of utility causes the high cross-point temperature. It is possible that the GSF on file (101,704 ft^2) includes substantial unoccupied or unconditioned areas. Since 2017, the weekday and weekend separation of CHW consumption patterns have a larger split.

Explanatory Figure: 13 months energy balance plot with original data



Rosenthal Meat Science & Technology Center (TAMU Bldg #1505)

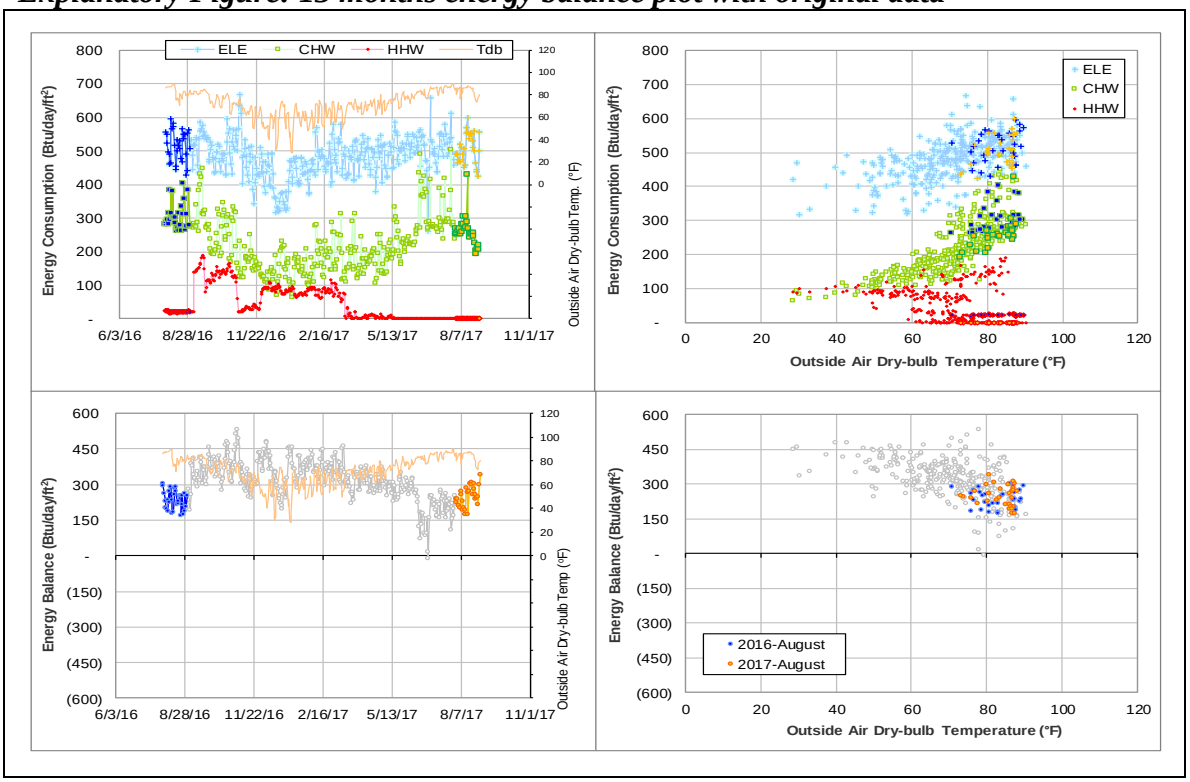
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	Very low or zero	Since 3/15/2017.

Comments

HHW consumption of this building has been zero or near zero since 3/15/2017. Its hourly flow readings are near zero (less than 0.0060 gpm) and its supply and return temperature readings are close to room temperature. It is suspected to be a close-off but this did not occur in the previous year.

Explanatory Figure: 13 months energy balance plot with original data



Medical Sciences Library (TAMU Bldg# 1509)

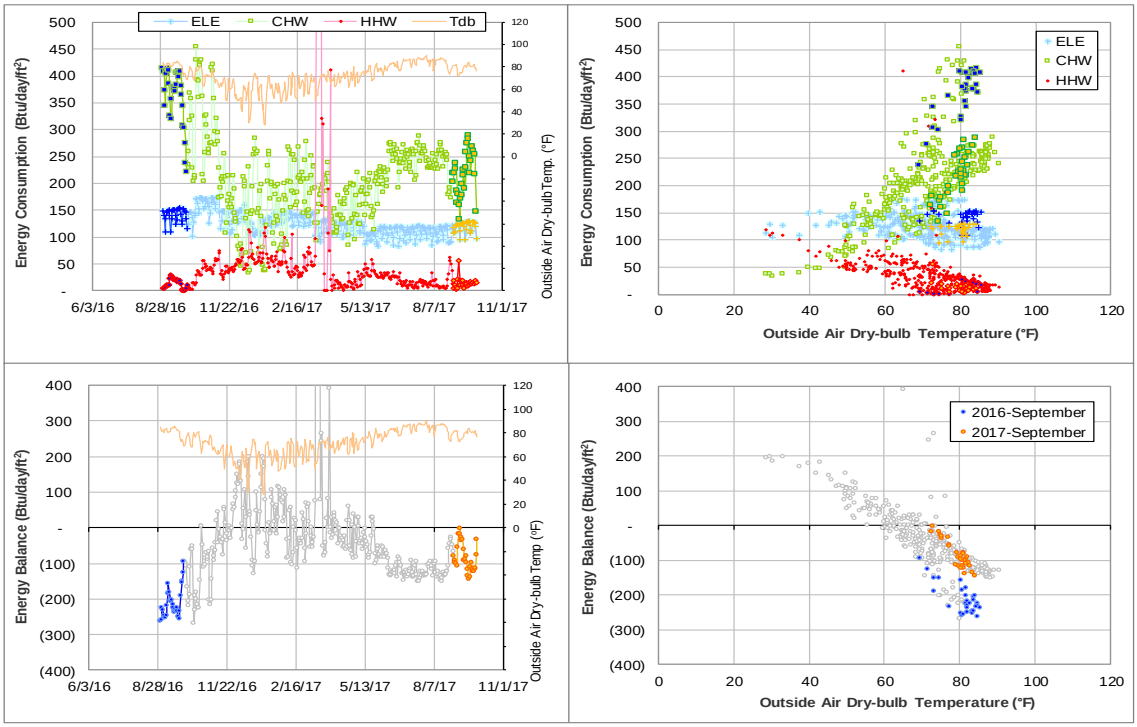
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE, CHW, and HHW	Consumption decreased significantly.	Since March 2017

Comments

The consumption of all utilities of this building decreased since March 2017. The decrease of CHW is the most significant. Since this building is found in ESCO III.

Explanatory Figure: 13 months energy balance plot with original data



Cox-McFerrin Center for Aggie Basketball (TAMU Bldg# 1558)

Detected issues in the energy balance and/or the consumption data

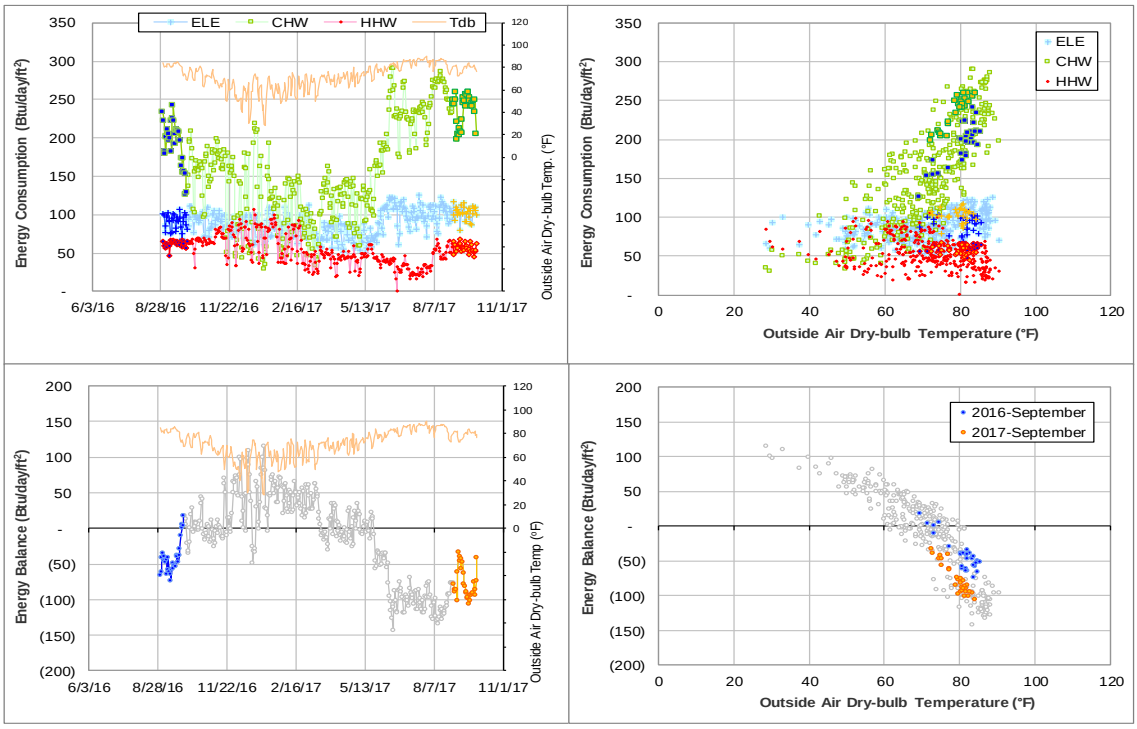
Data Type	Description of data behaviors	Period
CHW	Consumption increased.	Since May 2017
HHW	Consumption pattern is not weather dependent.	Since November 2016

Comments

The CHW consumption increased by about 50 Btu/day/ft^2. There is no meter fault observed associated with this change.

The HHW pattern remains scattered and does not appear to be weather dependent.

Explanatory Figure: 13 months energy balance plot with original data



West Campus Parking Garage (TAMU Bldg# 1559)

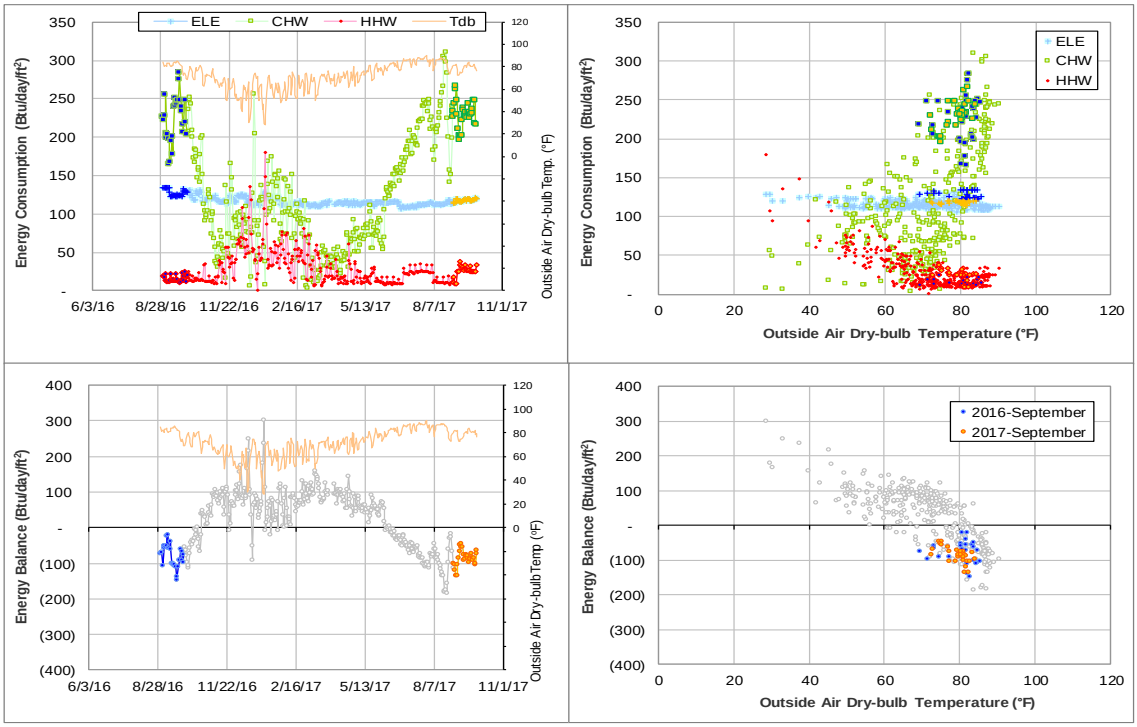
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	Scatter	Since June 2016

Comments

The CHW consumption of this building is scattered. Before June 2016, the CHW pattern was relatively reliable albeit high variation. Since June 2016 the CHW flow has frequent fluctuations and the data is scattered.

Explanatory Figure: 13 months energy balance plot with original data



International Ocean Discovery Building (TAMU Bldg# 1601)

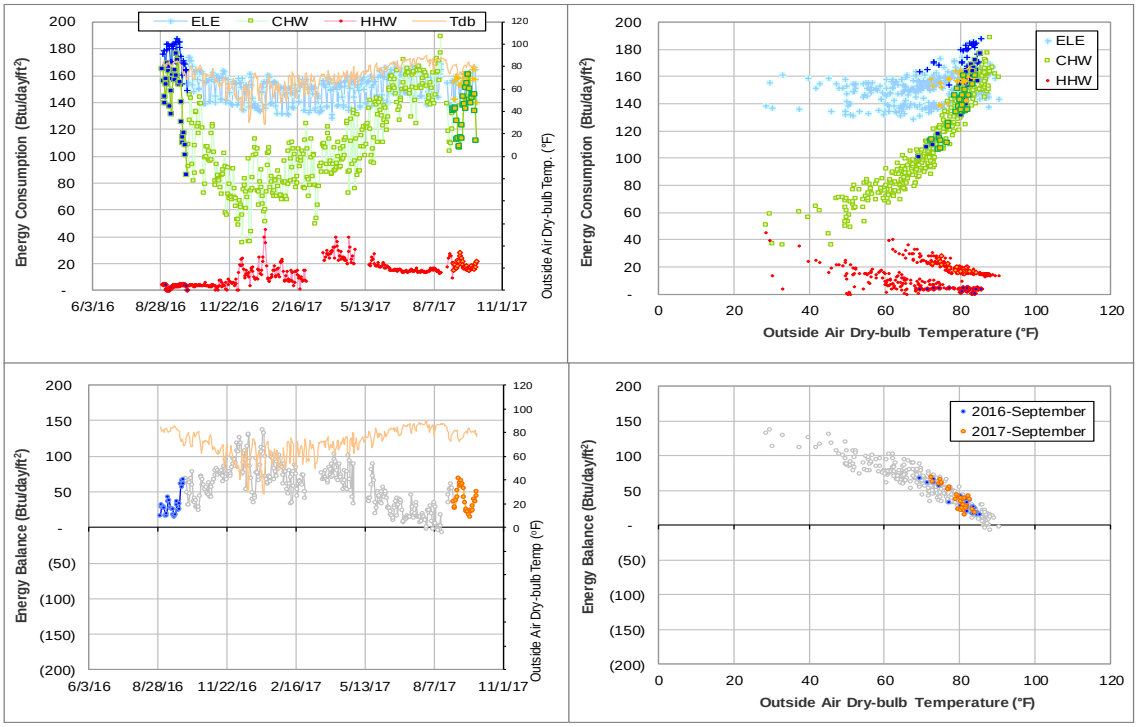
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point is high, around 85°F.	Since data became available in Feb 2015
HHW	A new MID 009829 is discovered.	3/21/2017

Comments

The cross-point temperature is high for this building, around 85°F. The daily CHW consumption for last year is 36 – 200 Btu/day/ft^2. The CHW consumption level is low compared to ELE and HHW levels and its ELE has strong dependence on temperature. This building might have its own chillers. A new HHW MID 009829 is discovered and has two or three times the consumption of the older HHW MID 008145, resulting a considerable increase in measured HHW consumption.

Explanatory Figure: 13 months energy balance plot with original data



Offshore Technology Research Center (TAMU Bldg# 1604)

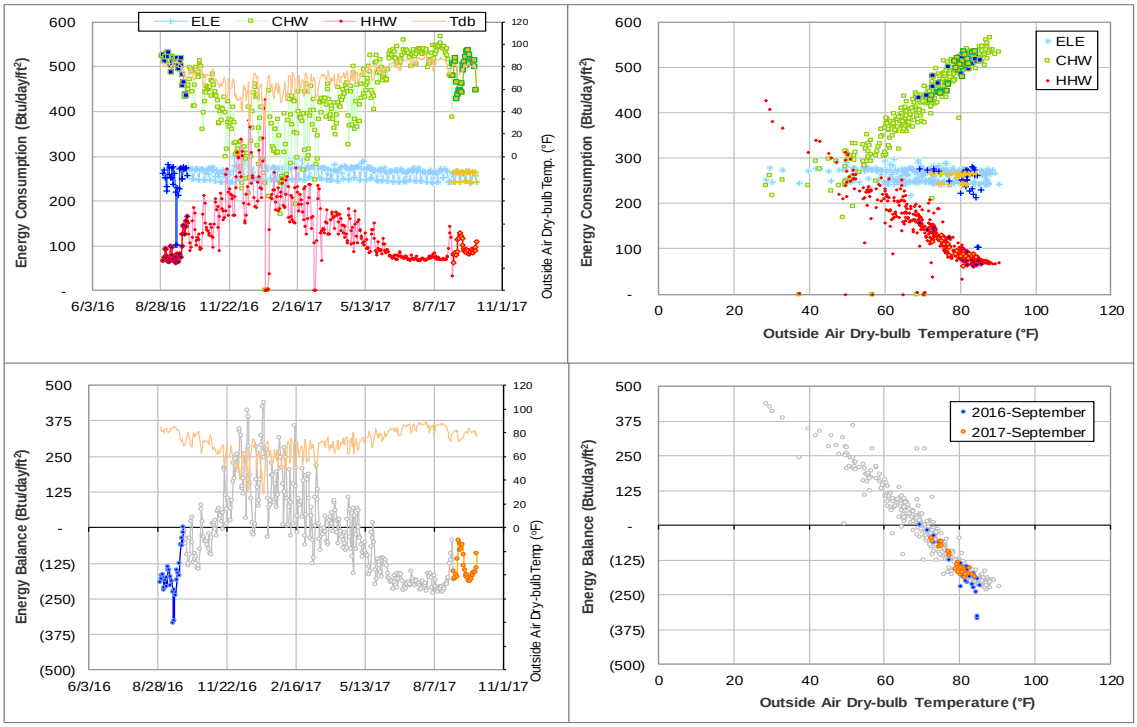
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE MID 006660	Consumption is zero for most of the time.	2/1/2015 – Ongoing

Comments

The electric consumption for MID 006660 has been zero for most of the time it has been available since 2/1/2015. This meter is suspected to measure consumption for a specific piece of equipment that only runs occasionally.

Explanatory Figure: 13 months energy balance plot with original data



Texas A&M Institute for Preclinical Studies A (TAMU Bldg# 1904)

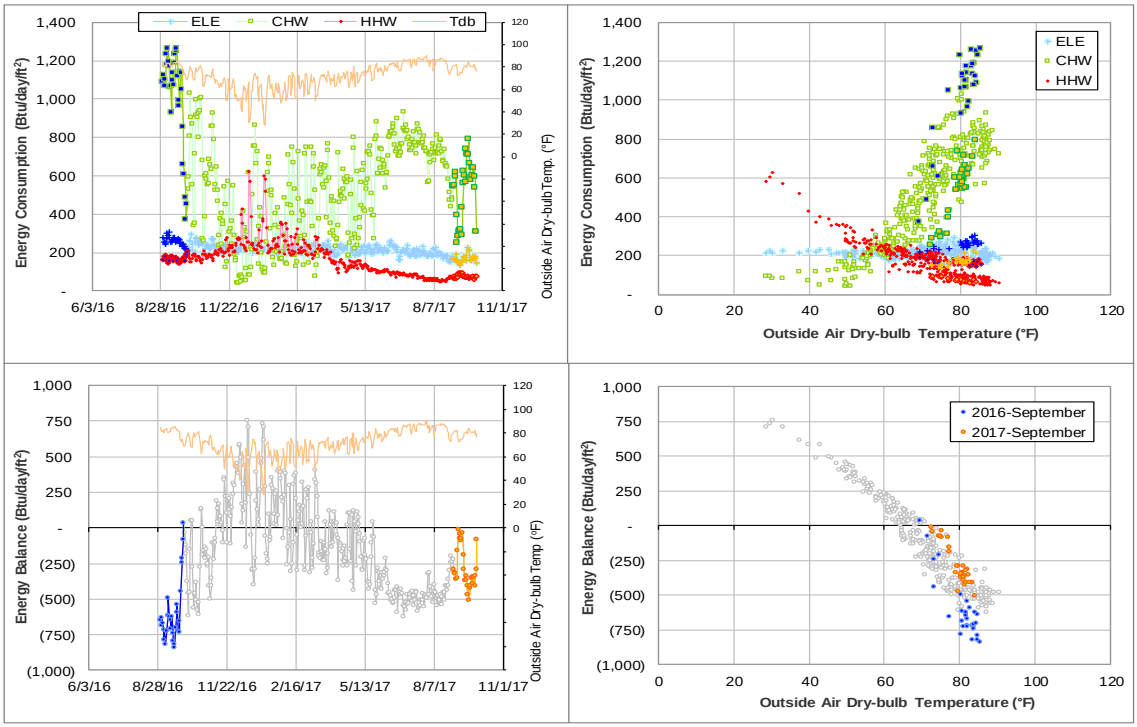
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE, CHW and HHW	Consumption is decreasing gradually.	Since April 2017

Comments

All ELE, CHW, and HHW consumption of this building has decreased since April 2017. Respectively, the three utilities are now about 100 Btu/day/ft^2 (35%), 400 Btu/day/ft^2 (35%), and 100 Btu/day/ft^2 (60%) lower than the same month in the previous year. However, the energy balance maintained the same pattern. Changes may have been made to this building.

Explanatory Figure: 13 months energy balance plot with original data



III. Time Series Plots for September 2017 Consumption

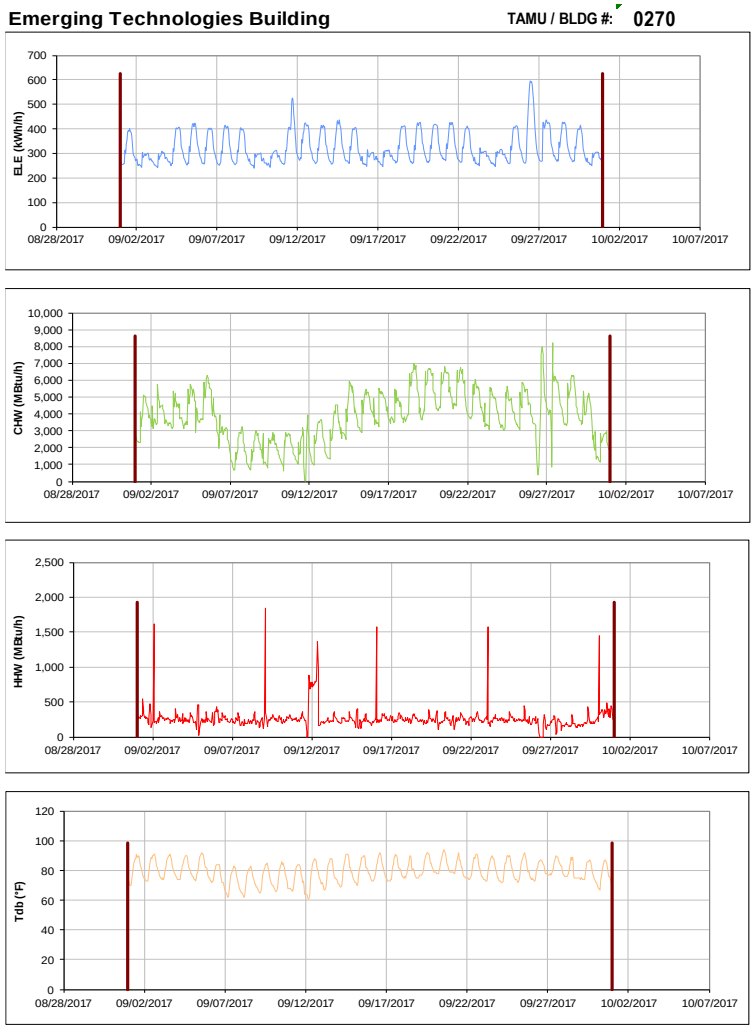


Figure III-1 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Emerging Technologies Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

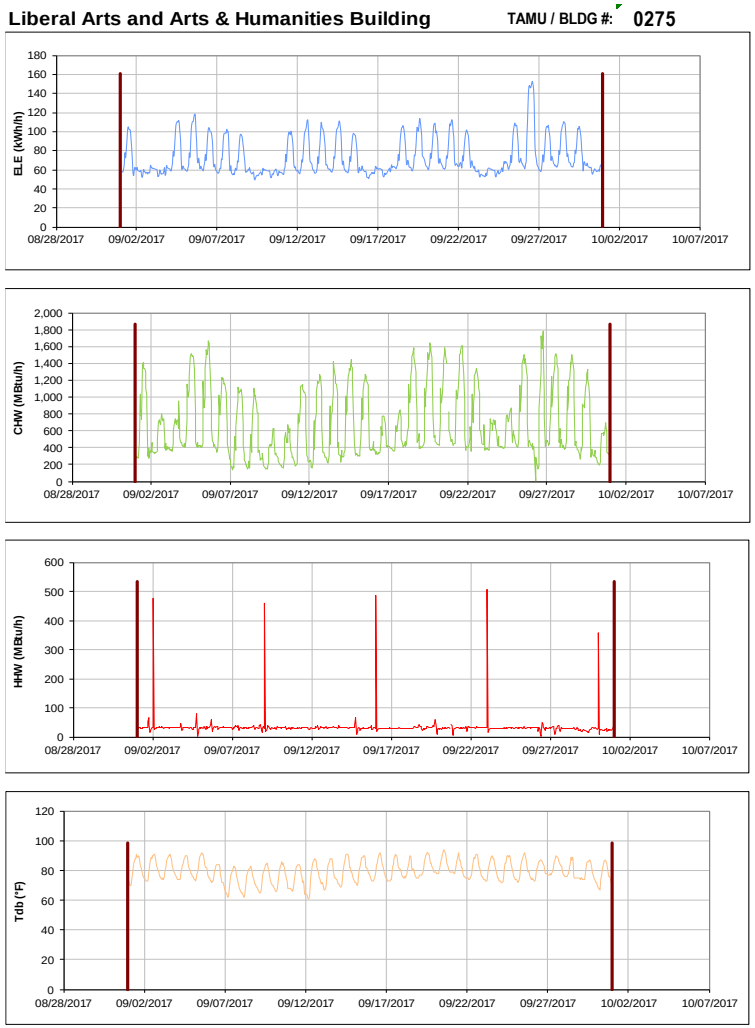


Figure III-2 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Liberal Arts and Arts & Humanities Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

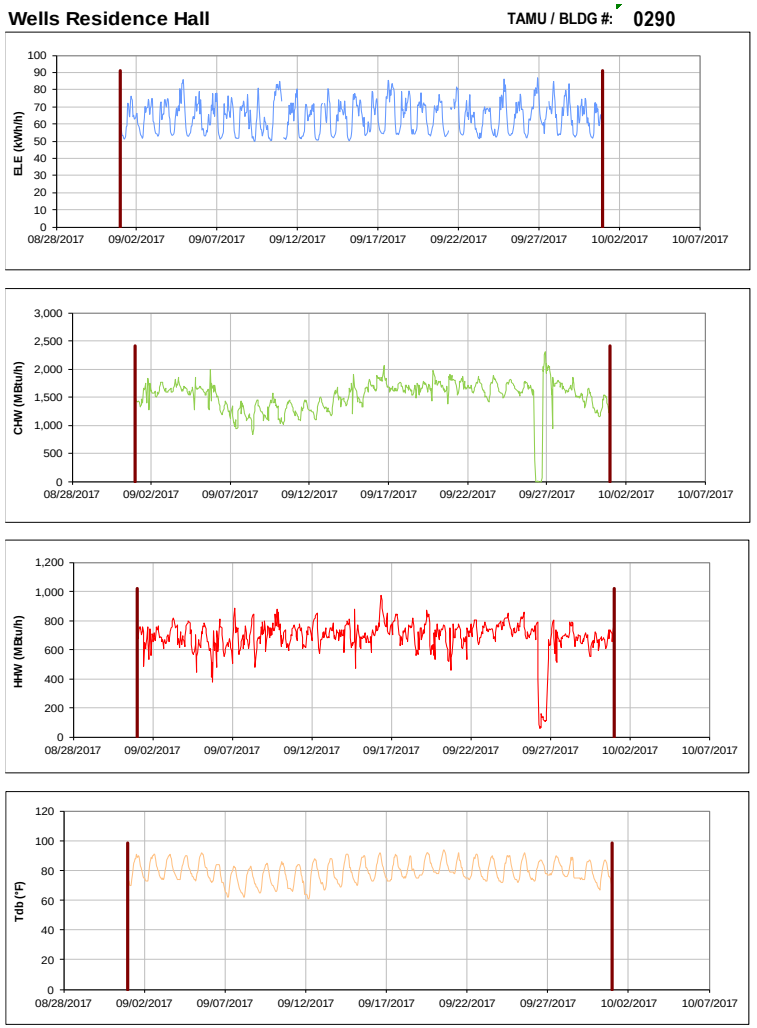


Figure III-3 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wells Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

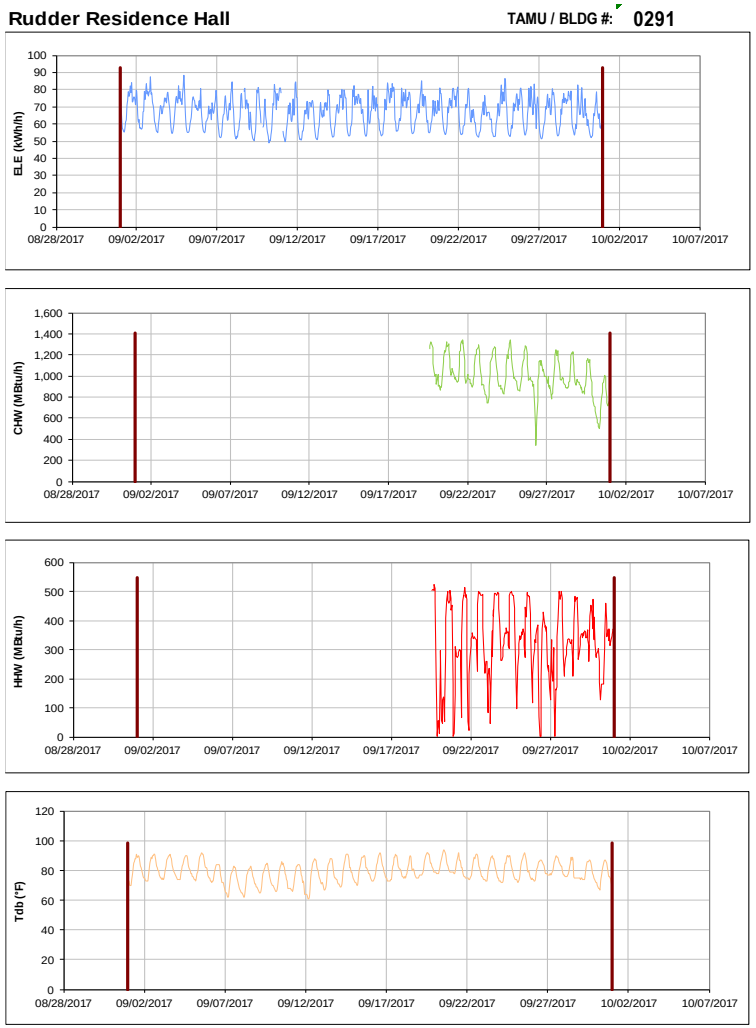


Figure III-4 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

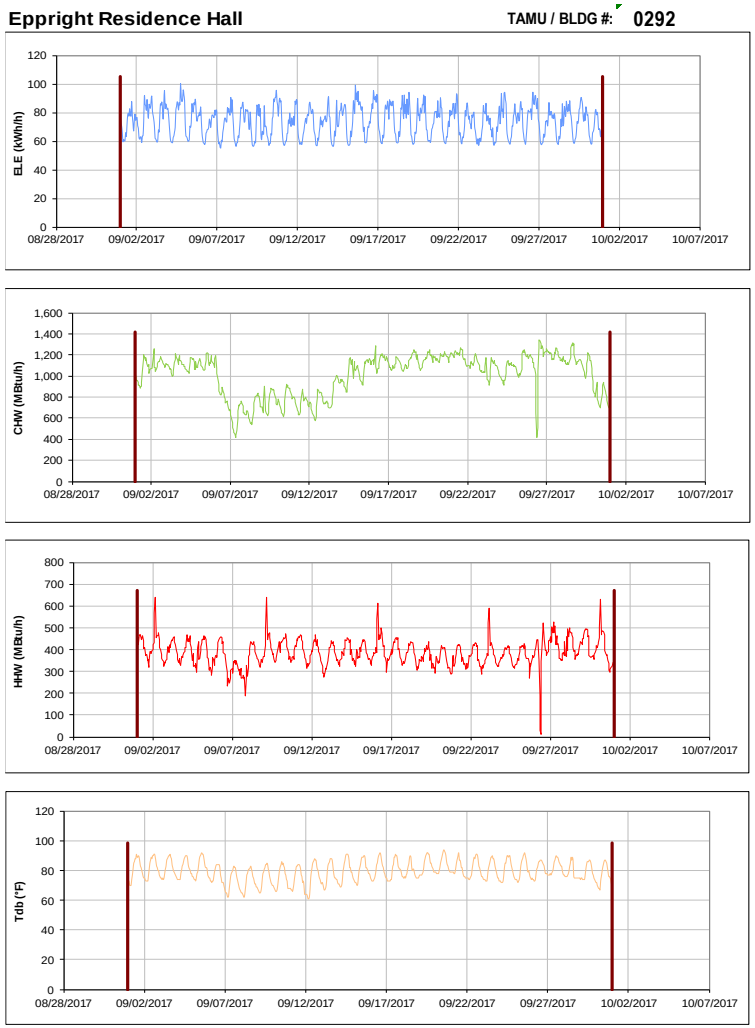


Figure III-5 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Eppright Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

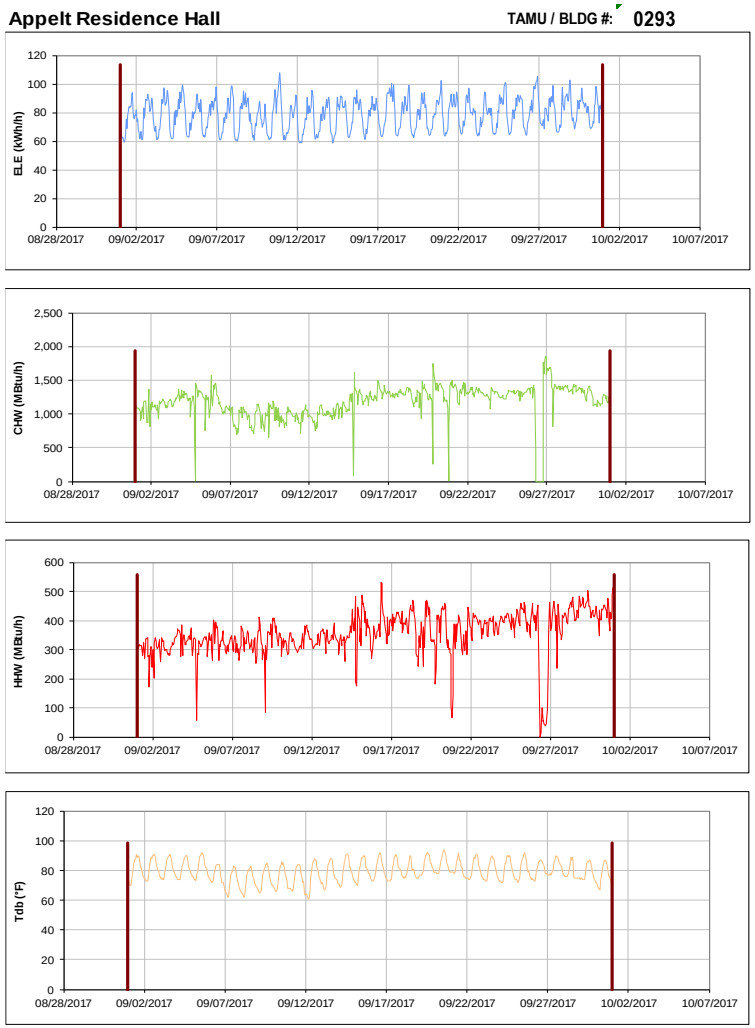


Figure III-6 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Appelt Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

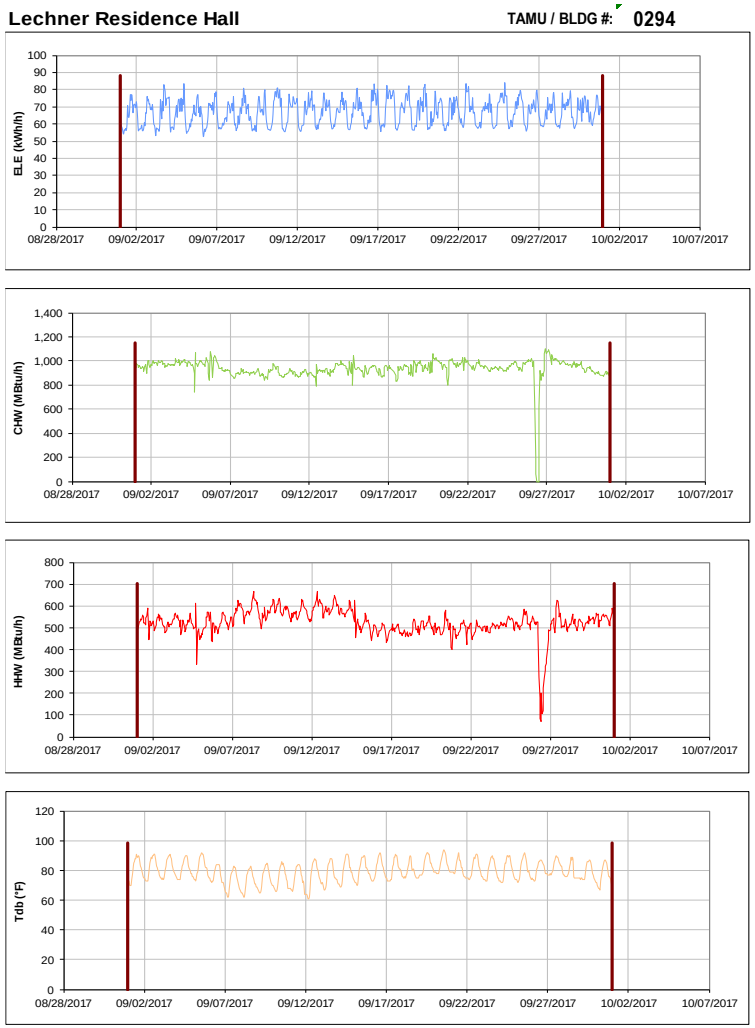


Figure III-7 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lechner Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Figure III-8 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mitchell Inst. for Fundamental Phys & Astronomy during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

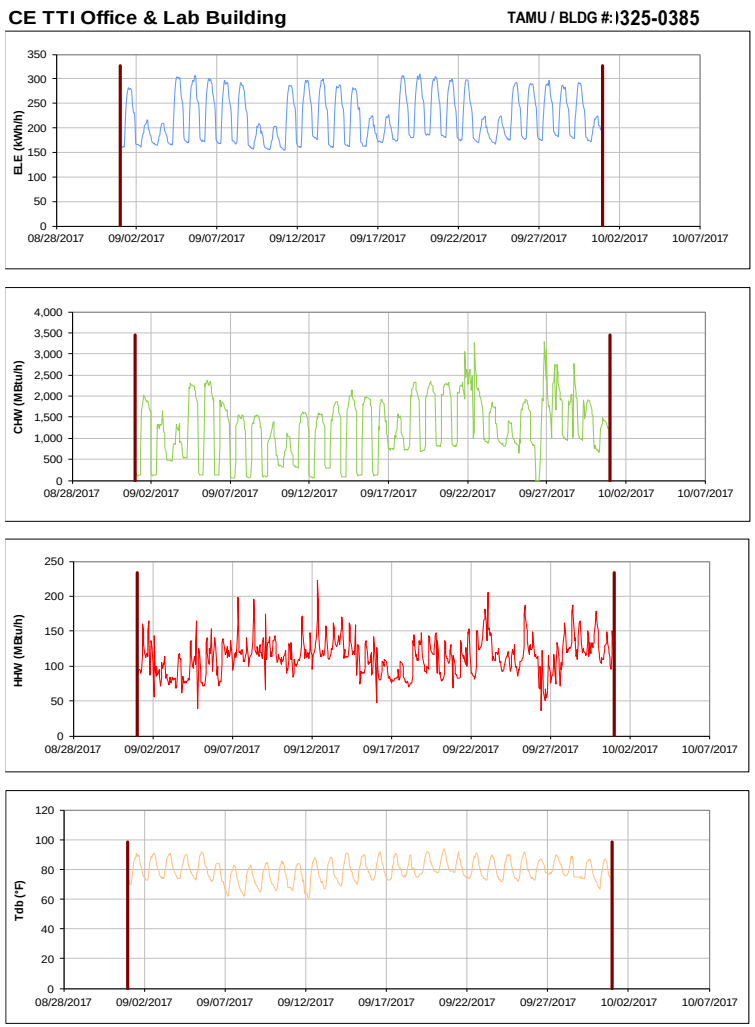


Figure III-9 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for CE TTI Office & Lab Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

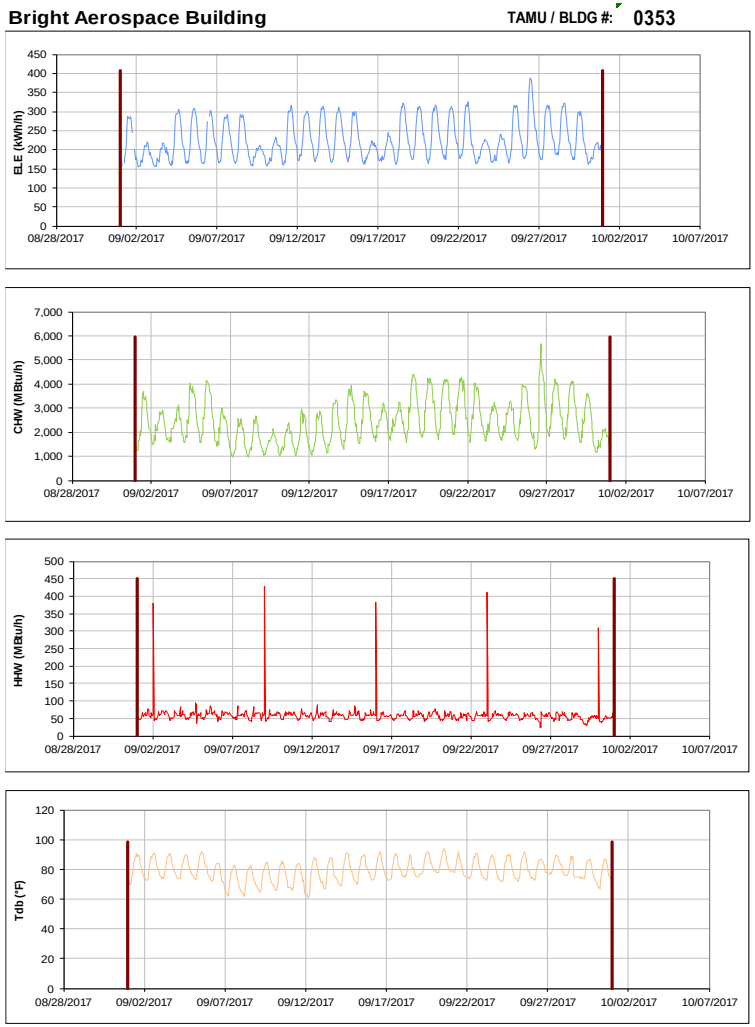


Figure III-10 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Aerospace Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

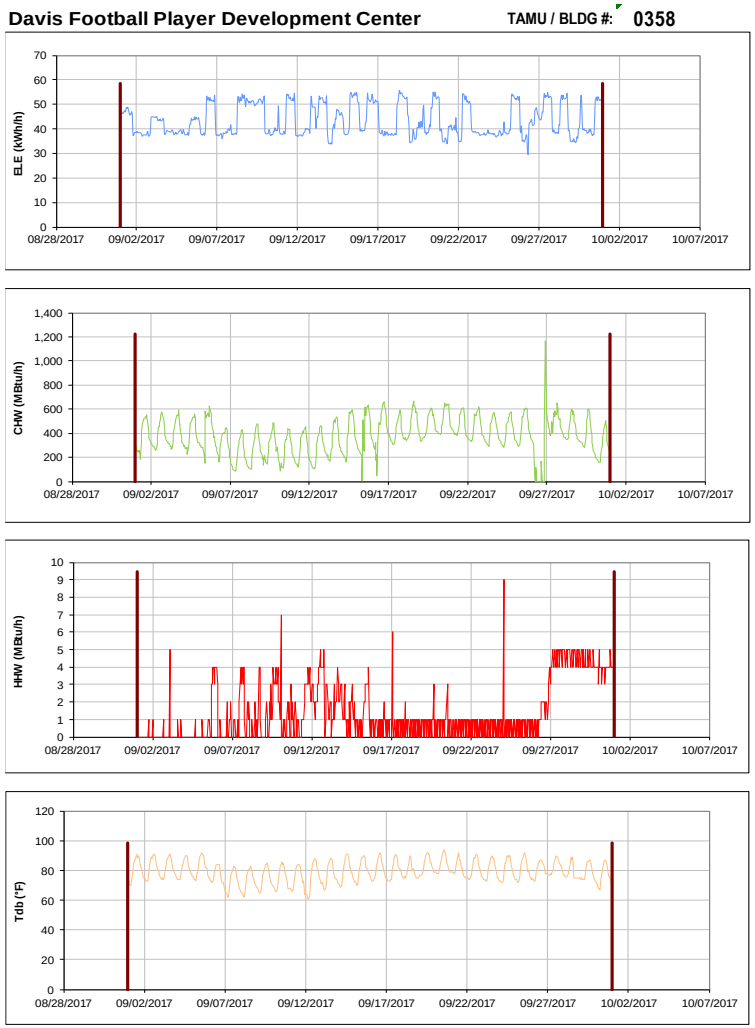


Figure III-11 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis Football Player Development Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

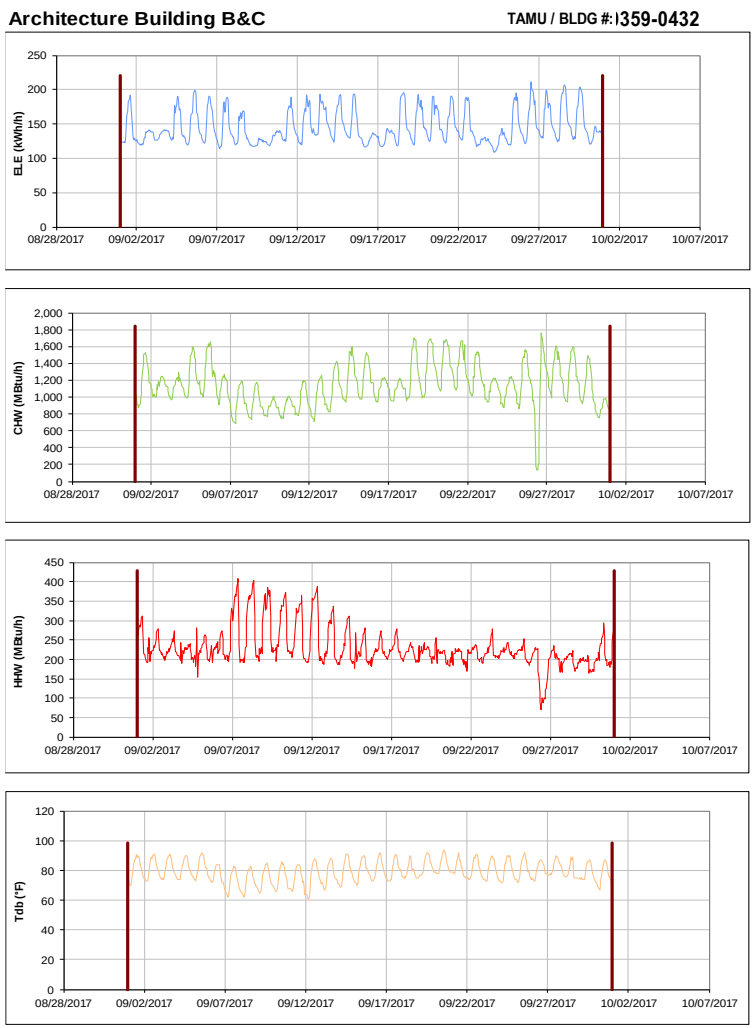


Figure III-12 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B&C during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

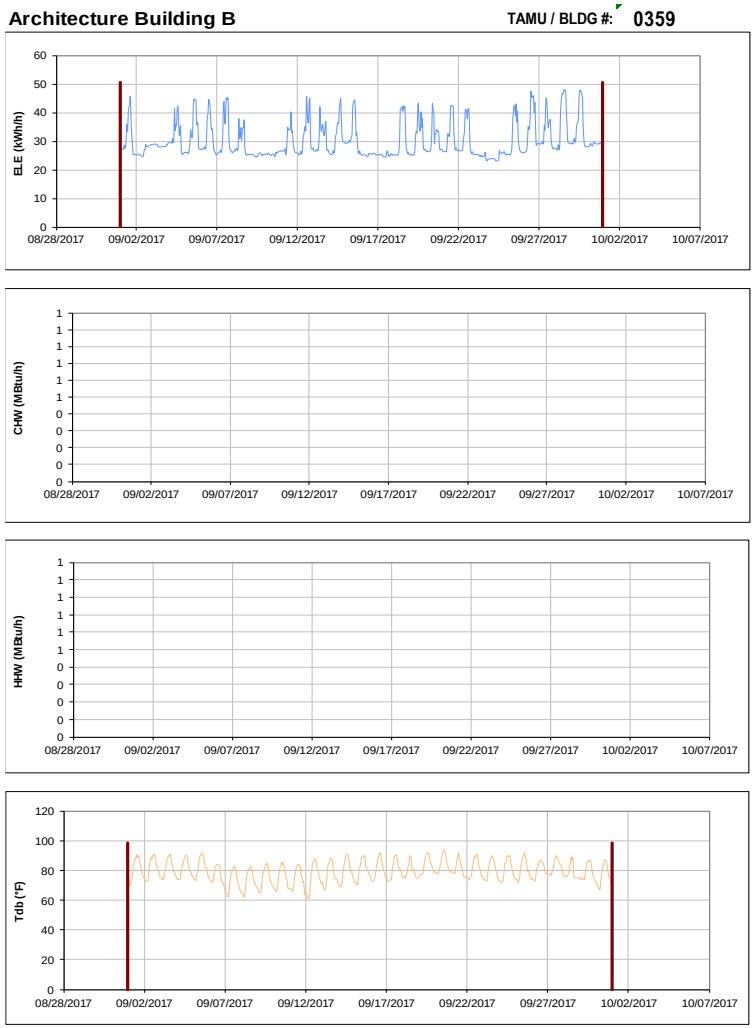


Figure III-13 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

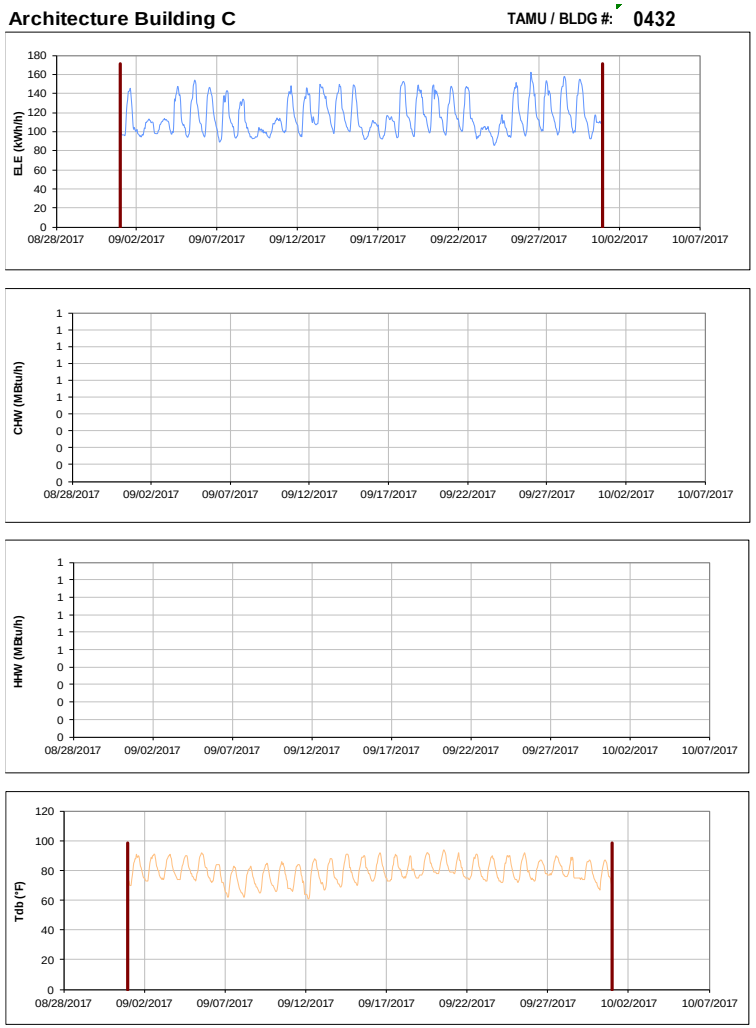


Figure III-14 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building C during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Figure III-15 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Football Complex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

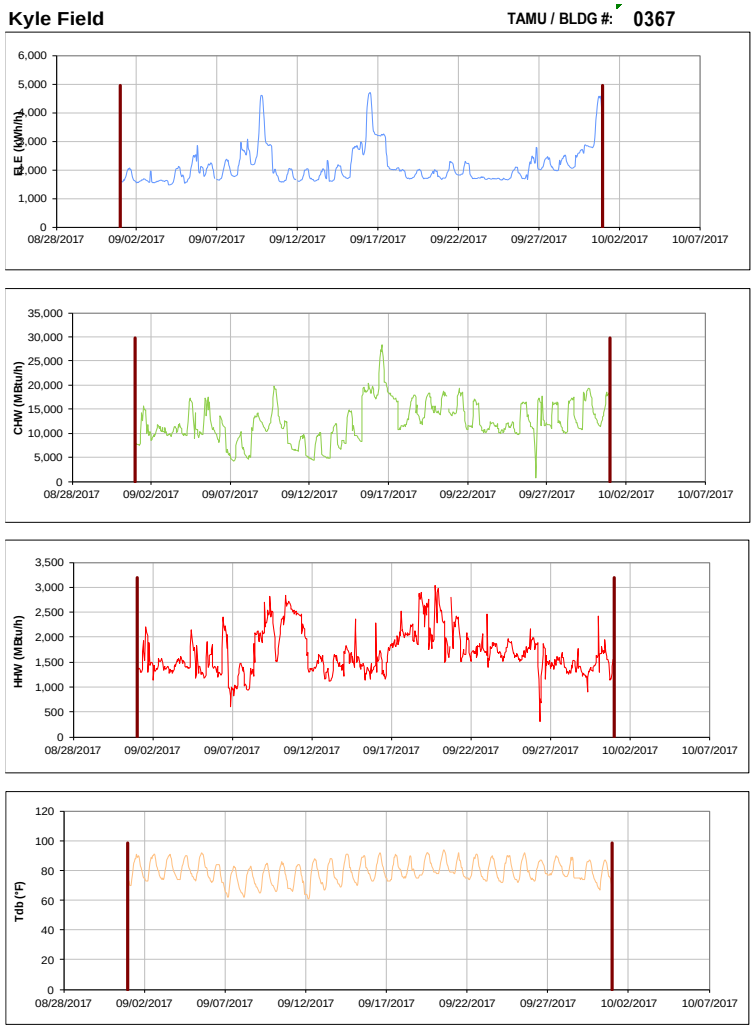


Figure III-16 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kyle Field during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

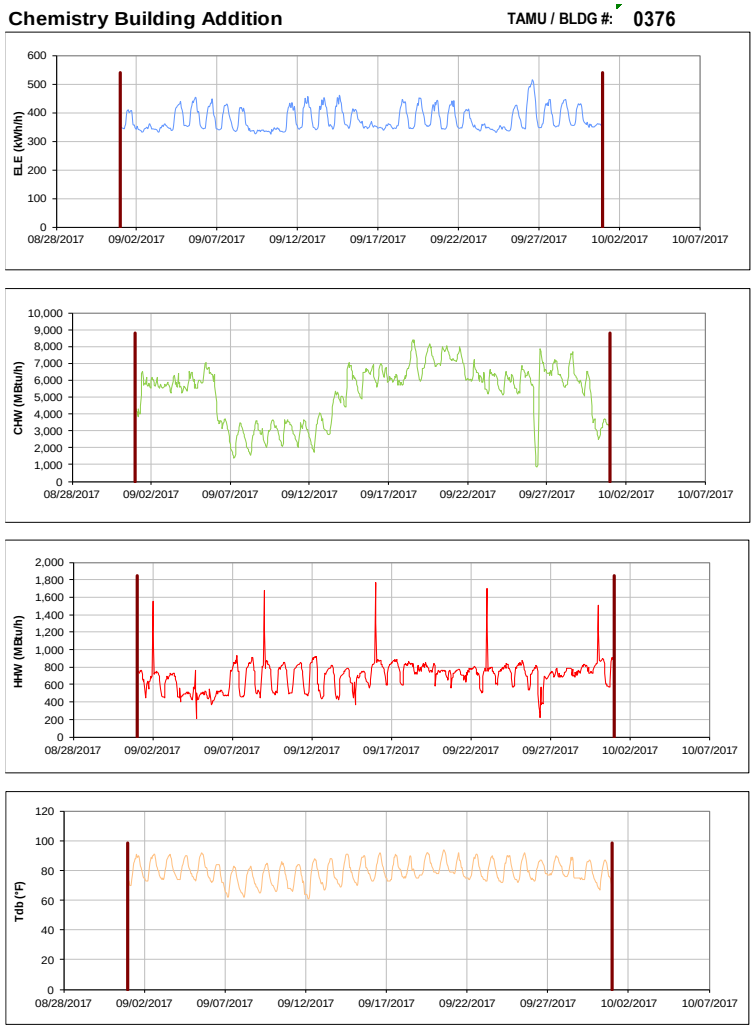


Figure III-17 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building Addition during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

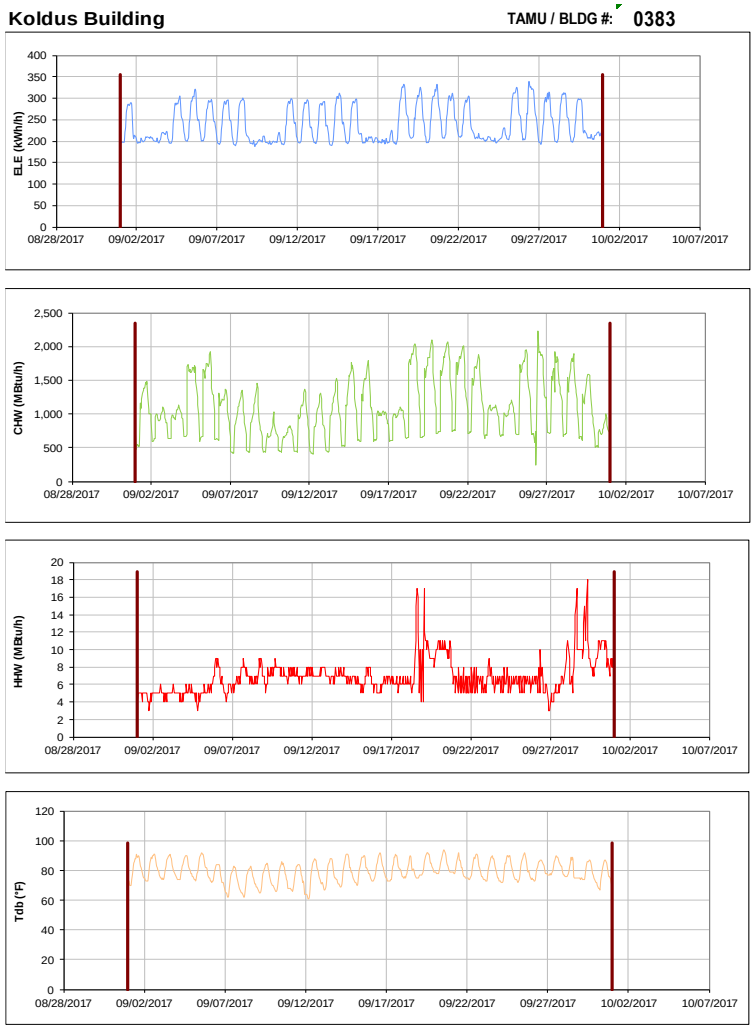


Figure III-18 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Koldus Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

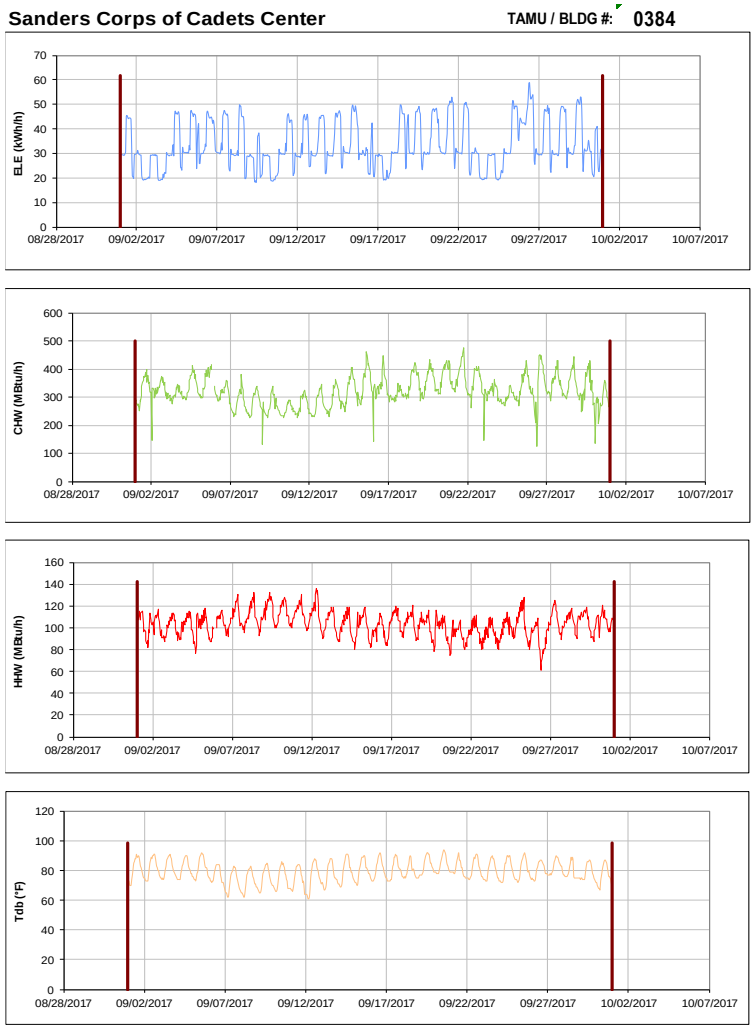


Figure III-19 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sanders Corps of Cadets Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

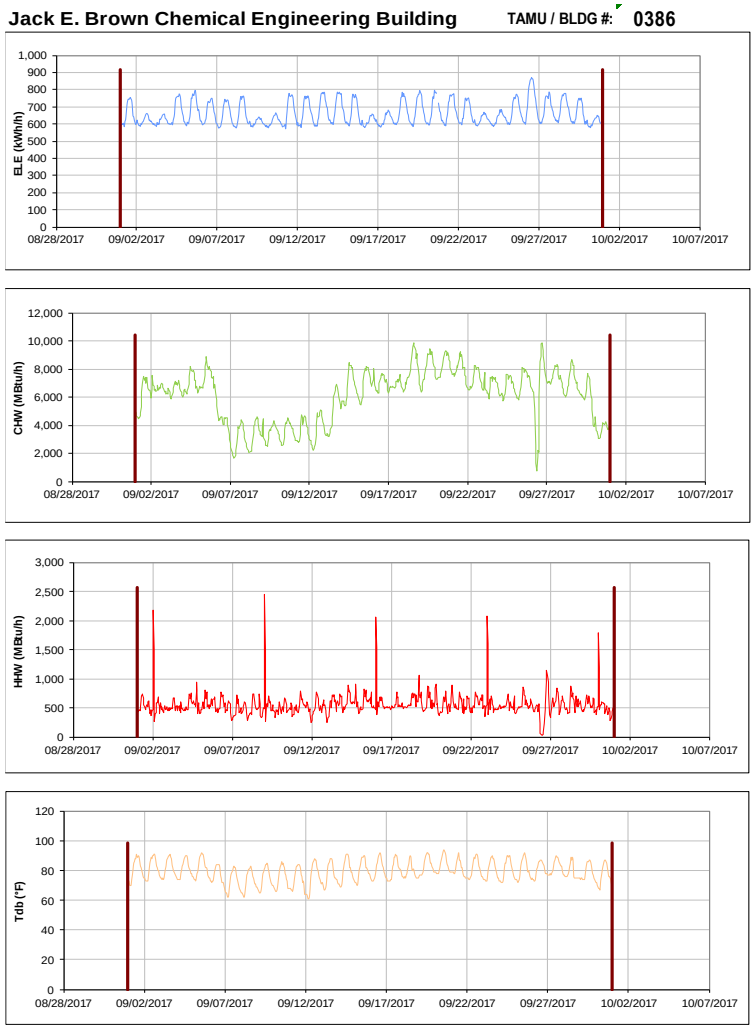


Figure III-20 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Jack E. Brown Chemical Engineering Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

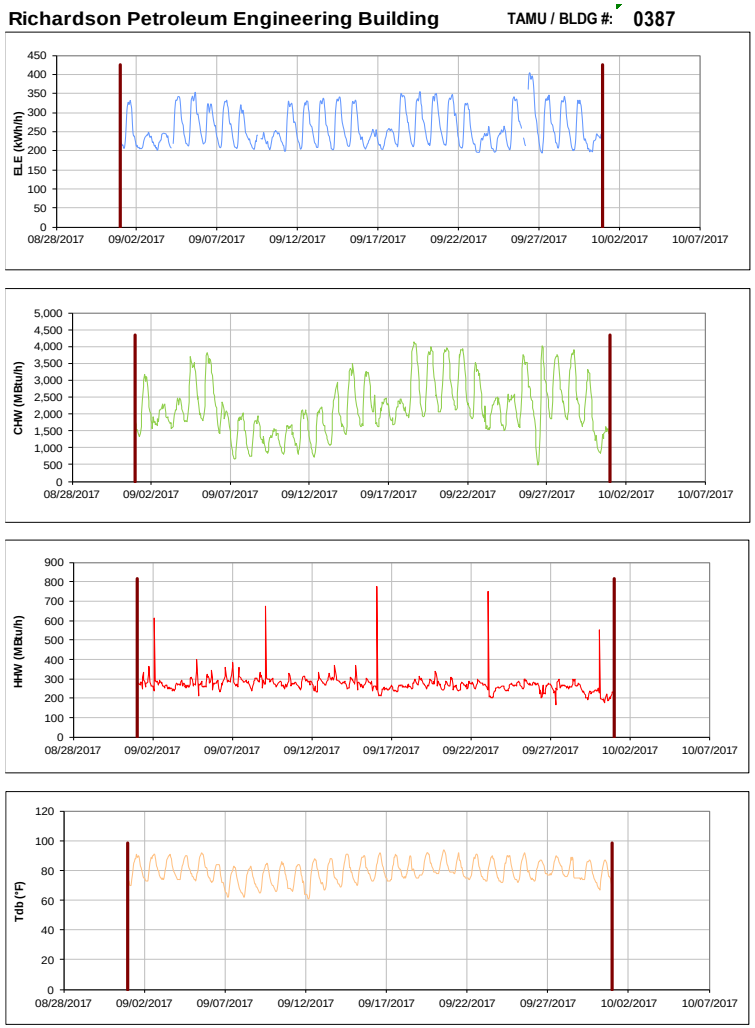


Figure III-21 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Richardson Petroleum Engineering Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

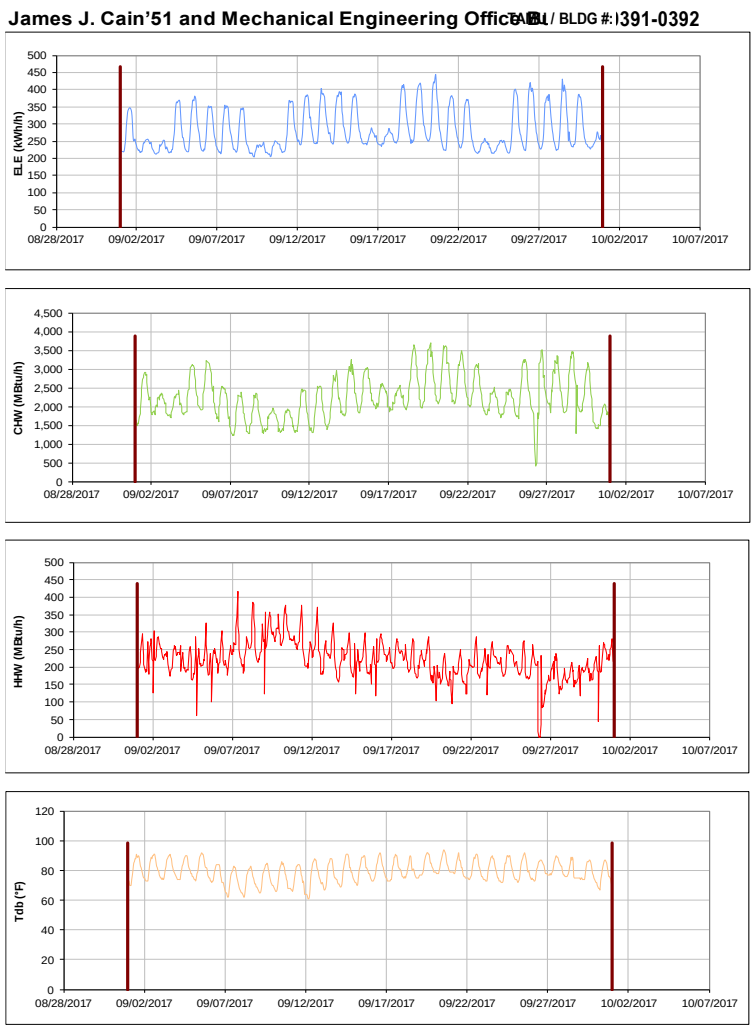


Figure III-22 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for James J. Cain'51 and Mechanical Engineering Office Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station,

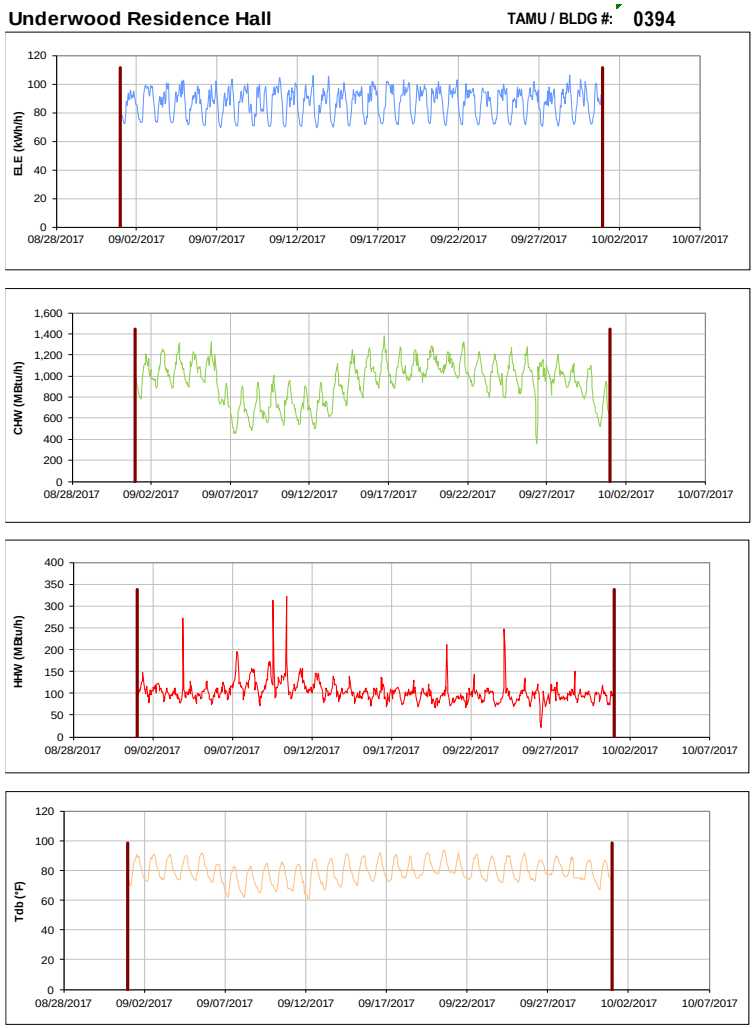


Figure III-23 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Underwood Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

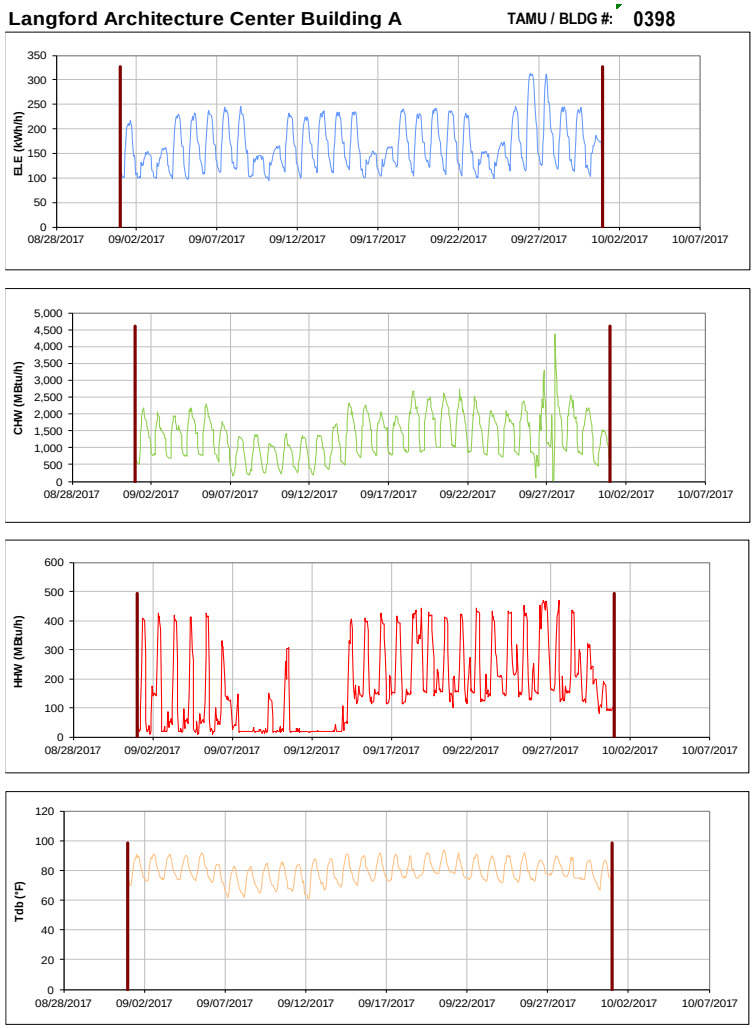


Figure III-24 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Langford Architecture Center Building A during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

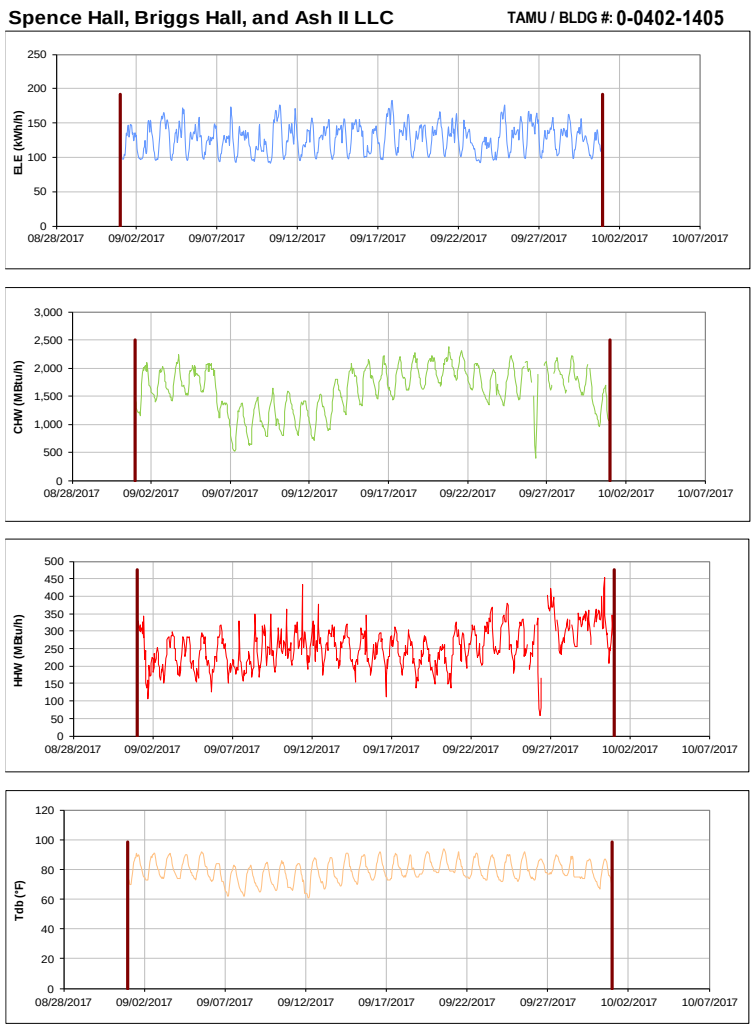


Figure III-25 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Spence Hall, Briggs Hall, and Ash II LLC during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

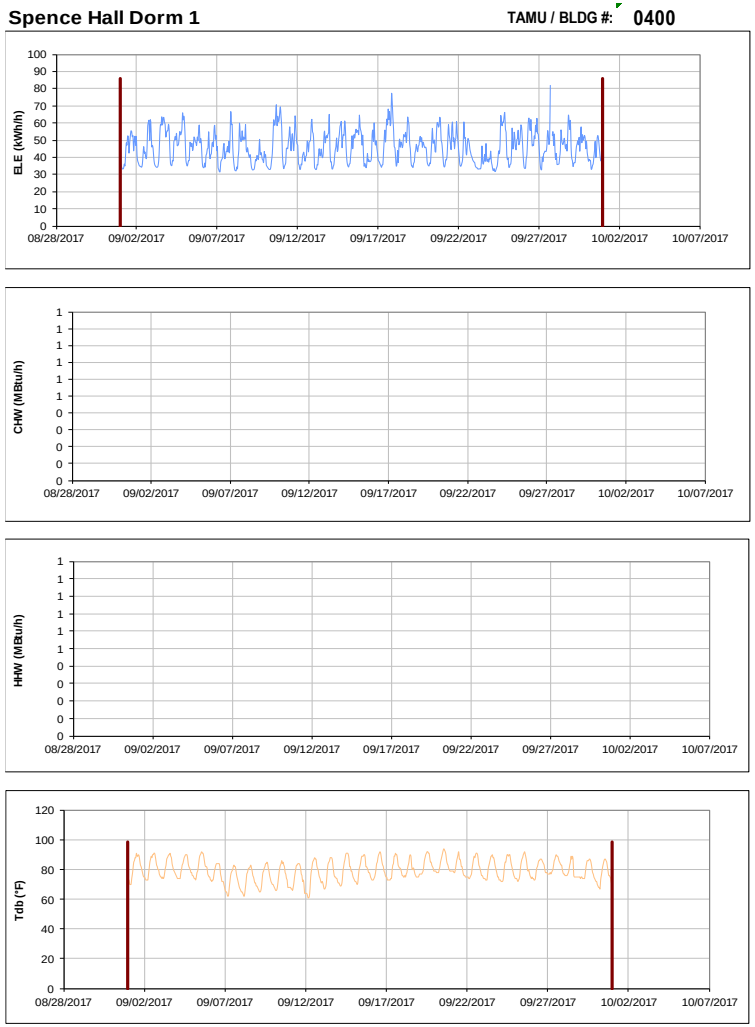


Figure III-26 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Spence Hall Dorm 1 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

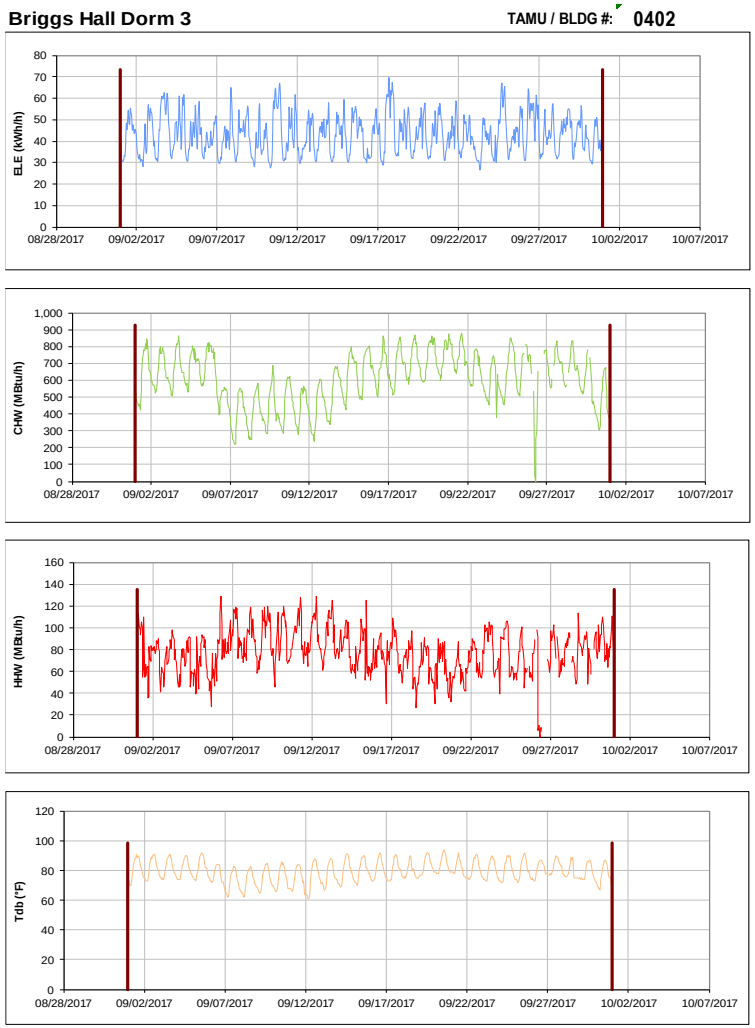


Figure III-27 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Briggs Hall Dorm 3 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

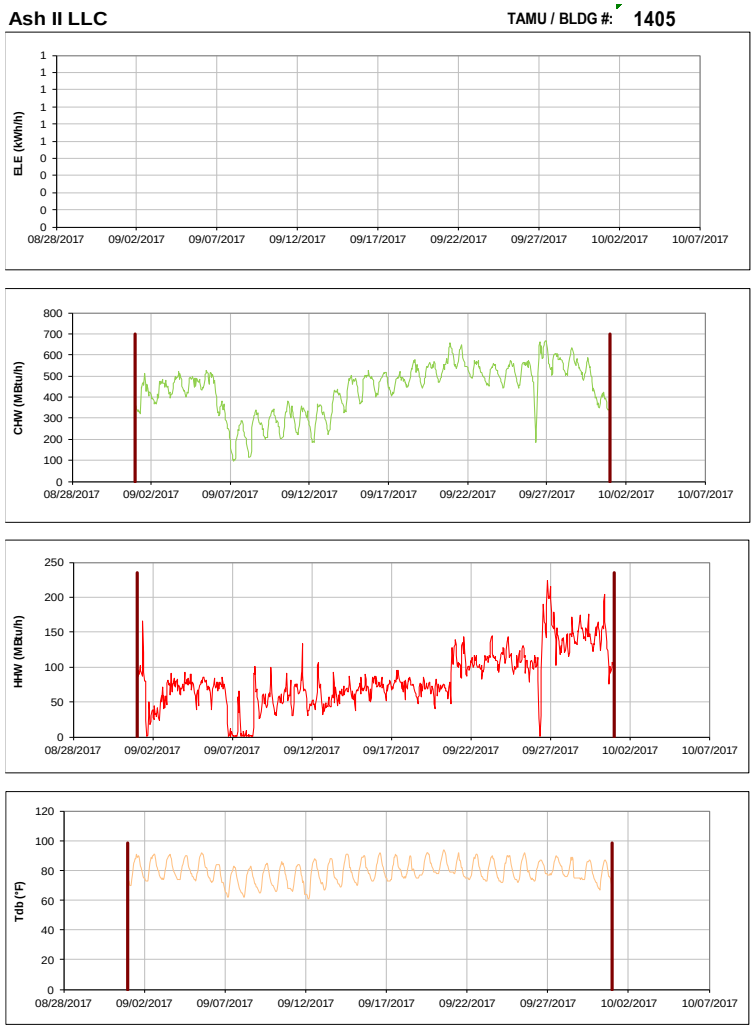


Figure III-28 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Ash II LLC during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

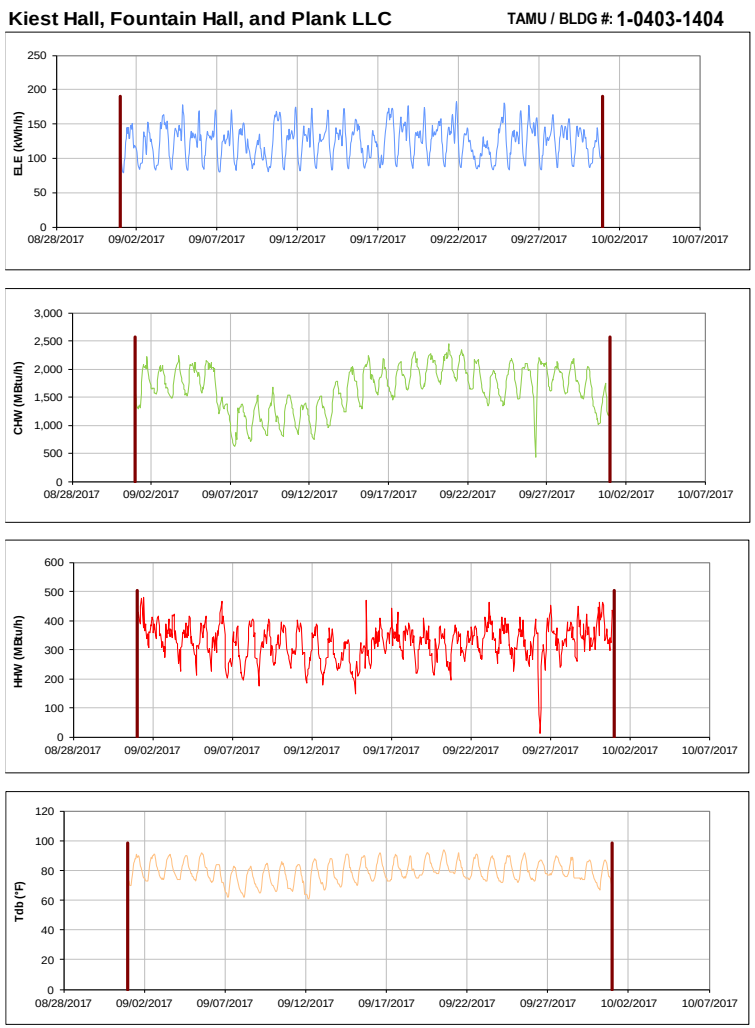


Figure III-29 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kiest Hall, Fountain Hall, and Plank LLC during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

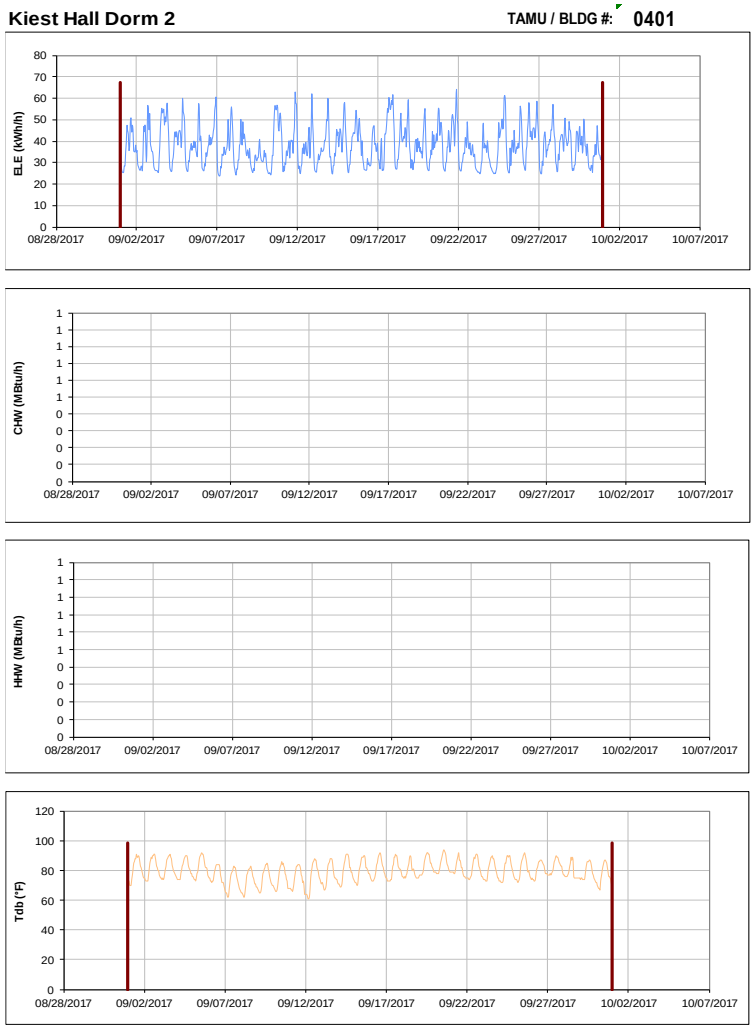


Figure III-30 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kiest Hall Dorm 2 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

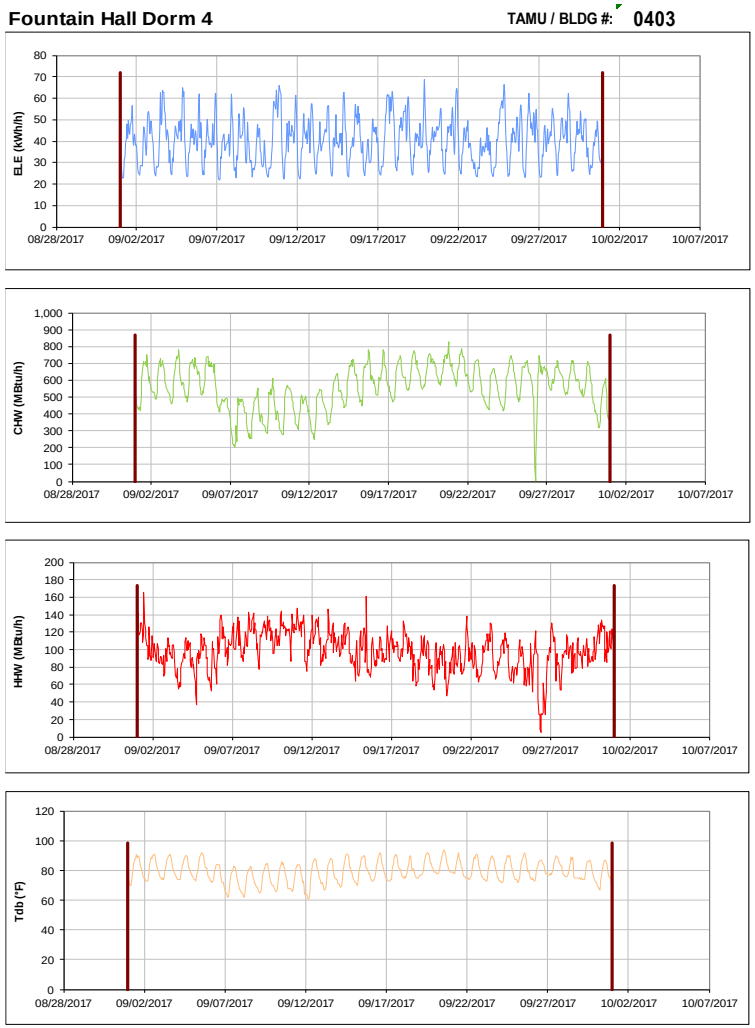


Figure III-31 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fountain Hall Dorm 4 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

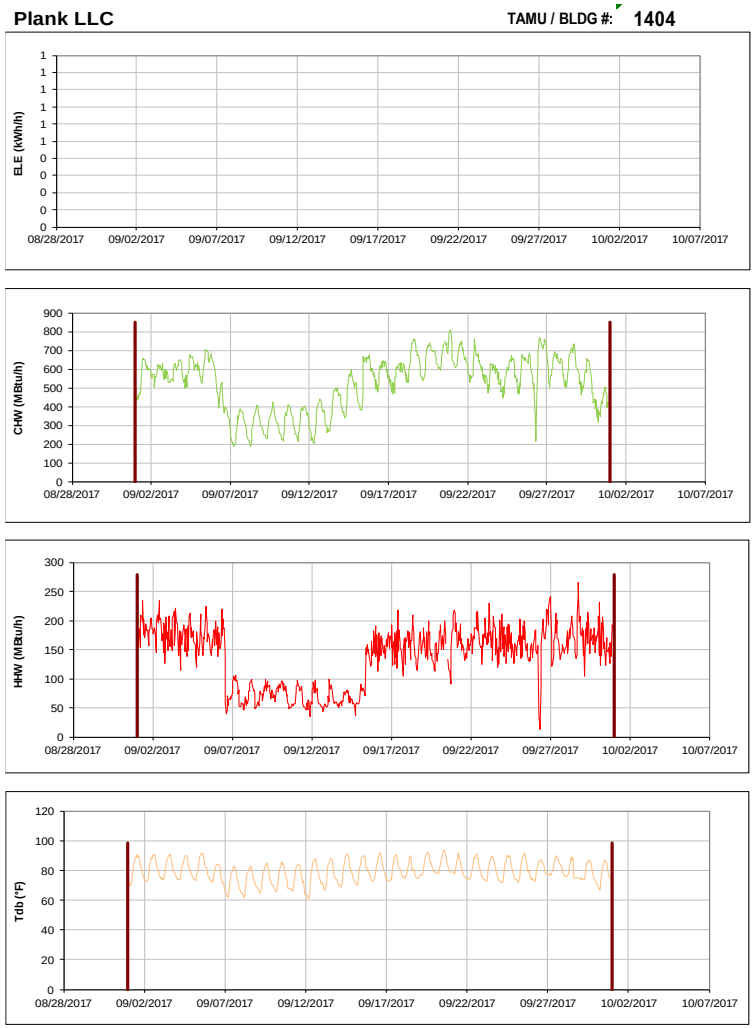


Figure III-32 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Plank LLC during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

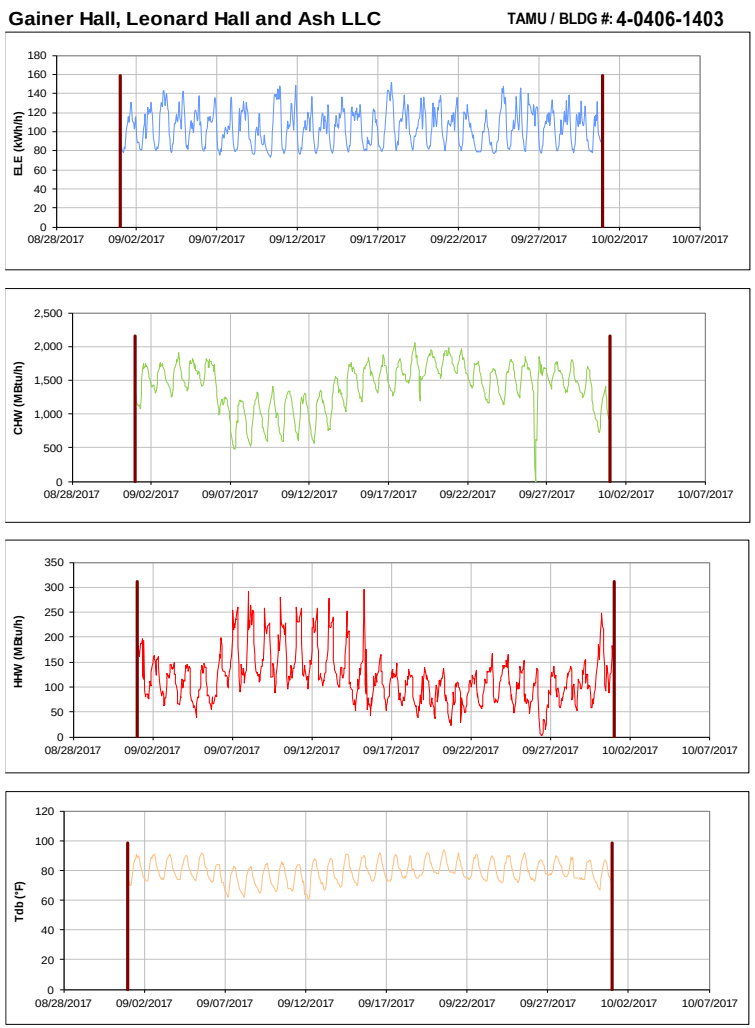


Figure III-33 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gainer Hall, Leonard Hall and Ash LLC during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

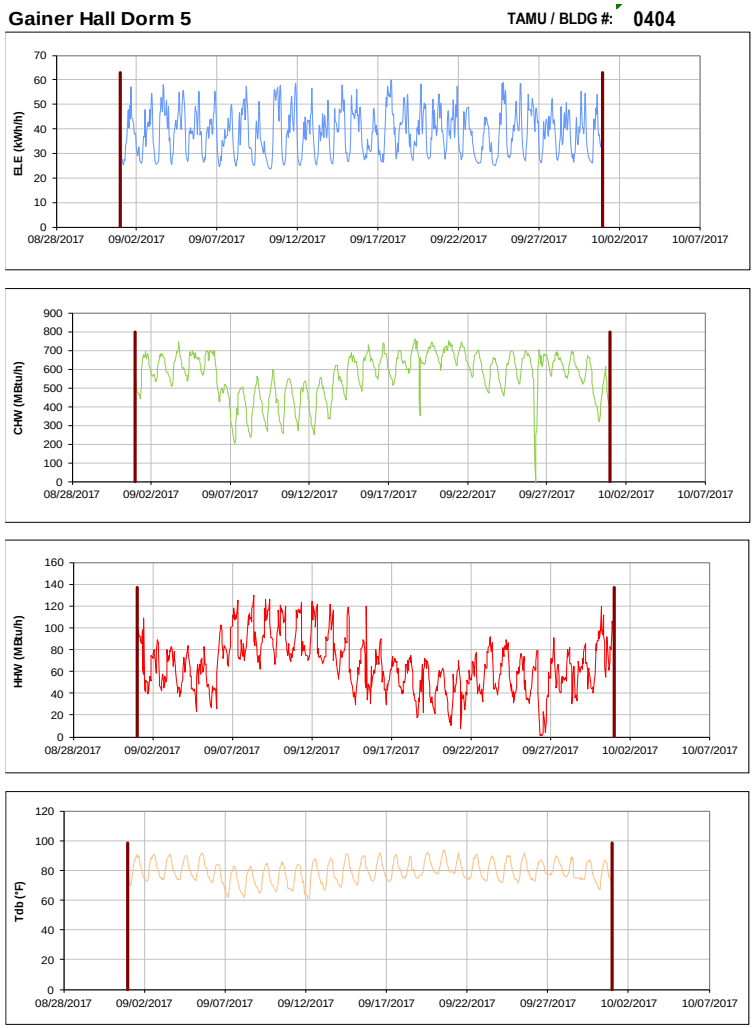


Figure III-34 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gainer Hall Dorm 5 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

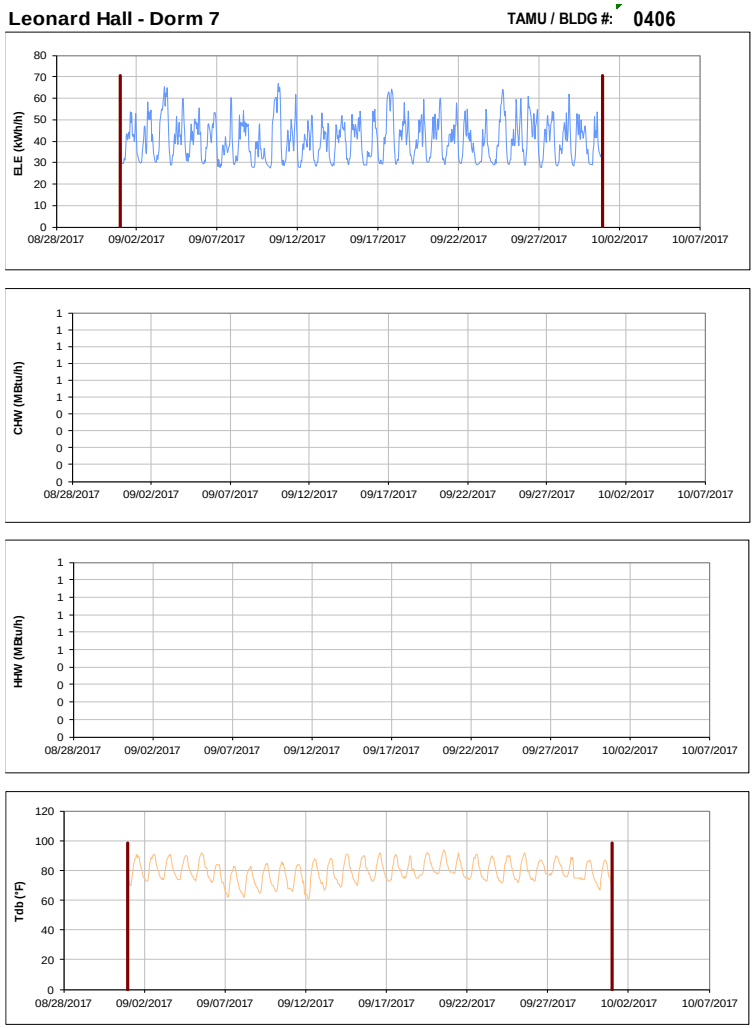


Figure III-35 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Leonard Hall - Dorm 7 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

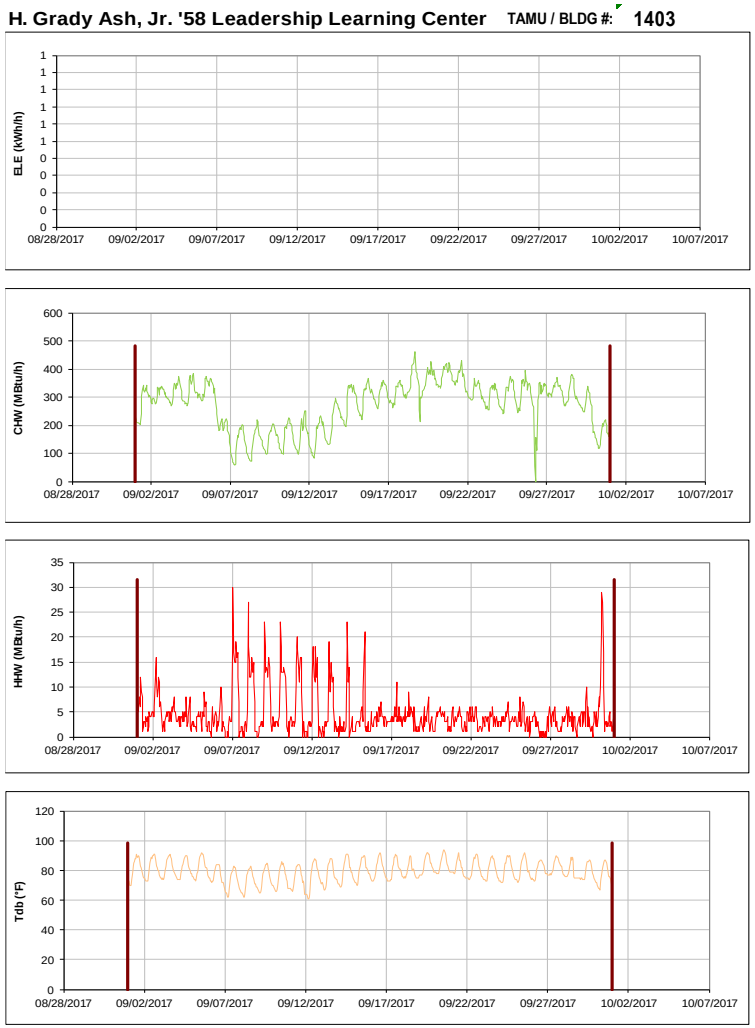


Figure III-36 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for H. Grady Ash, Jr. '58 Leadership Learning Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

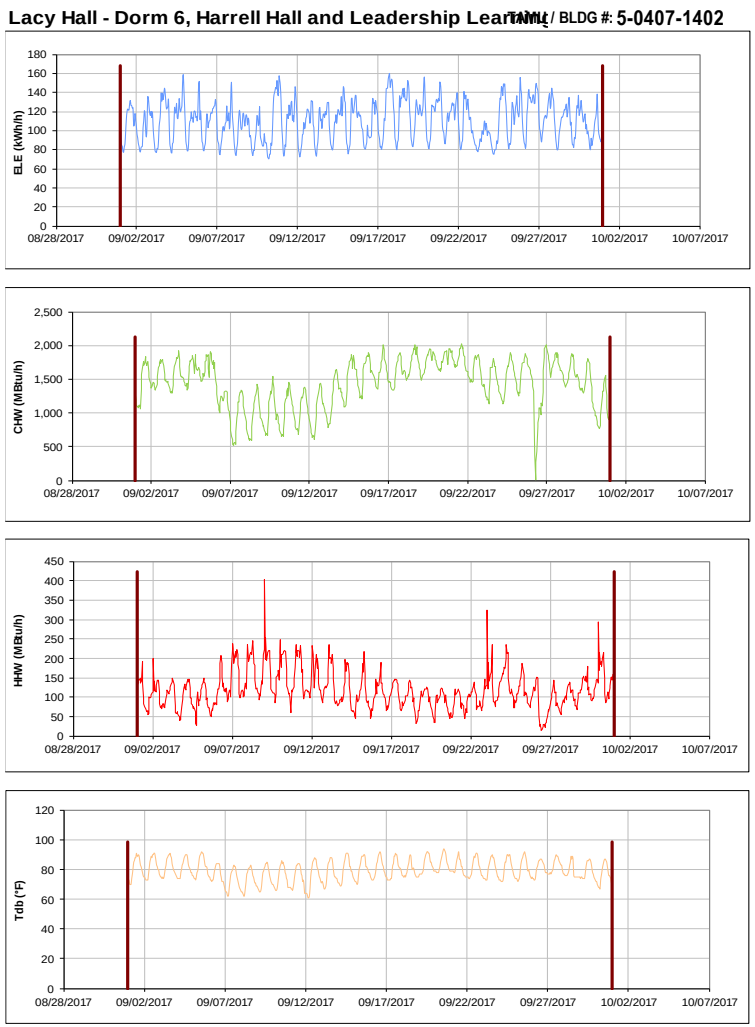


Figure III-37 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

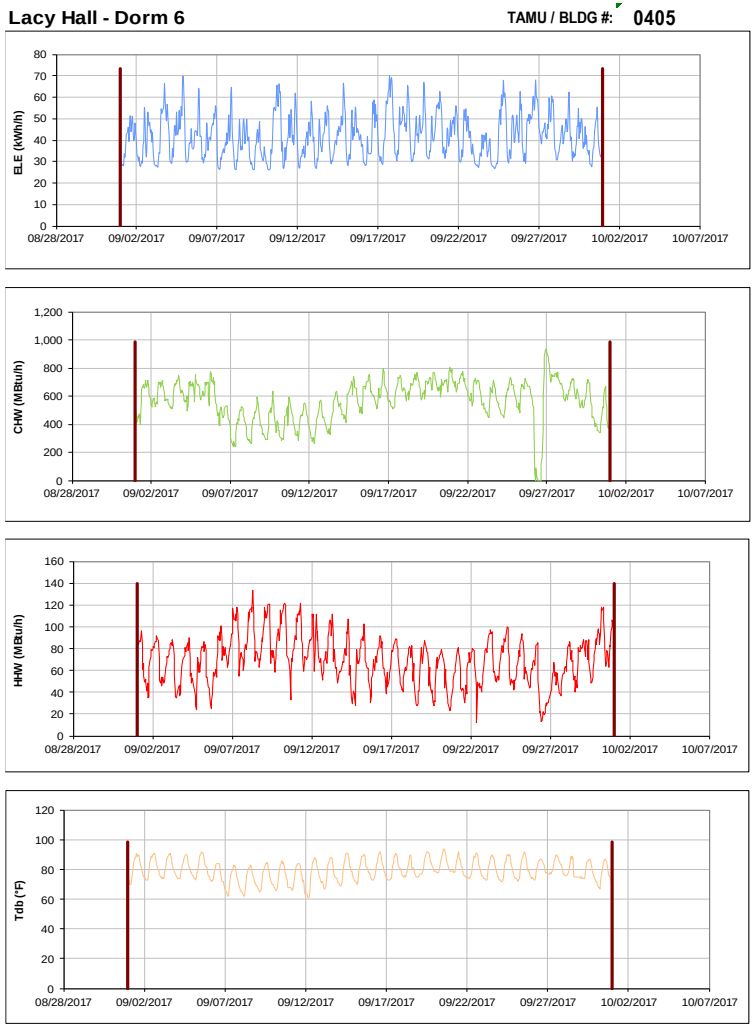


Figure III-38 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

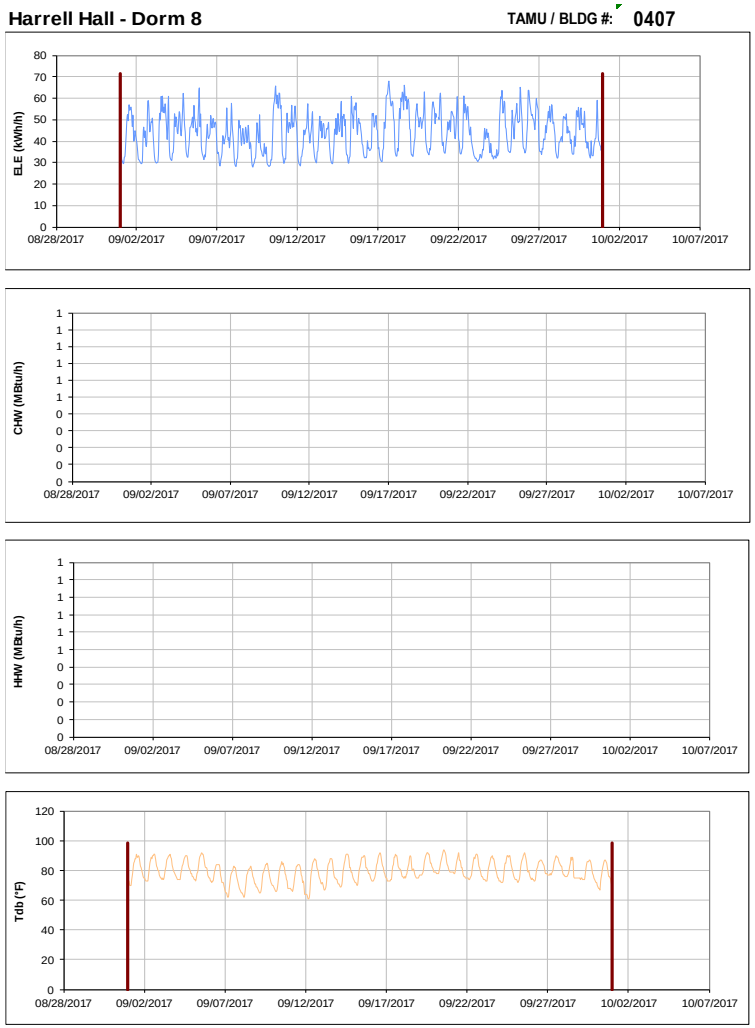


Figure III-39 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrell Hall - Dorm 8 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

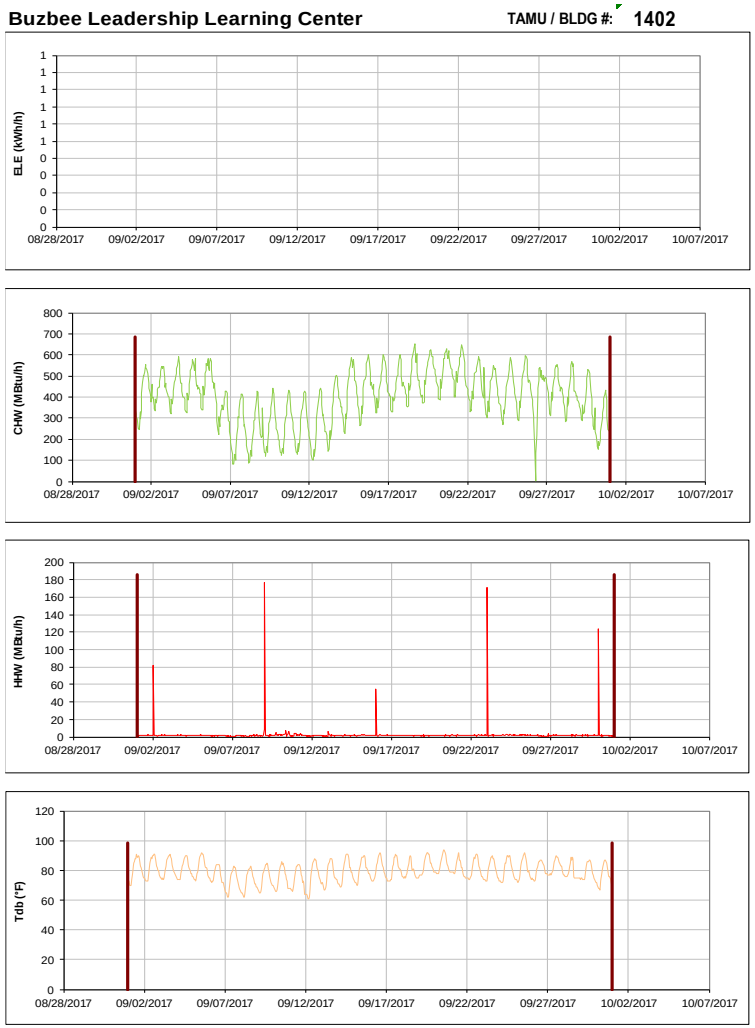


Figure III-40 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Buzbee Leadership Learning Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

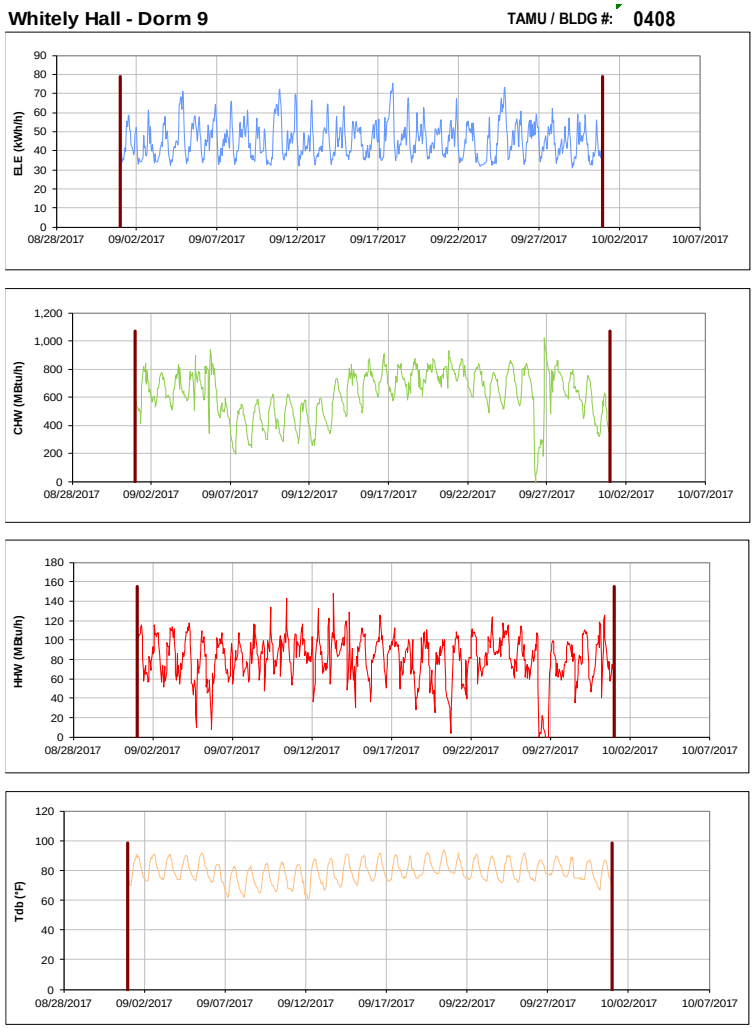


Figure III-41 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Whitely Hall - Dorm 9 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

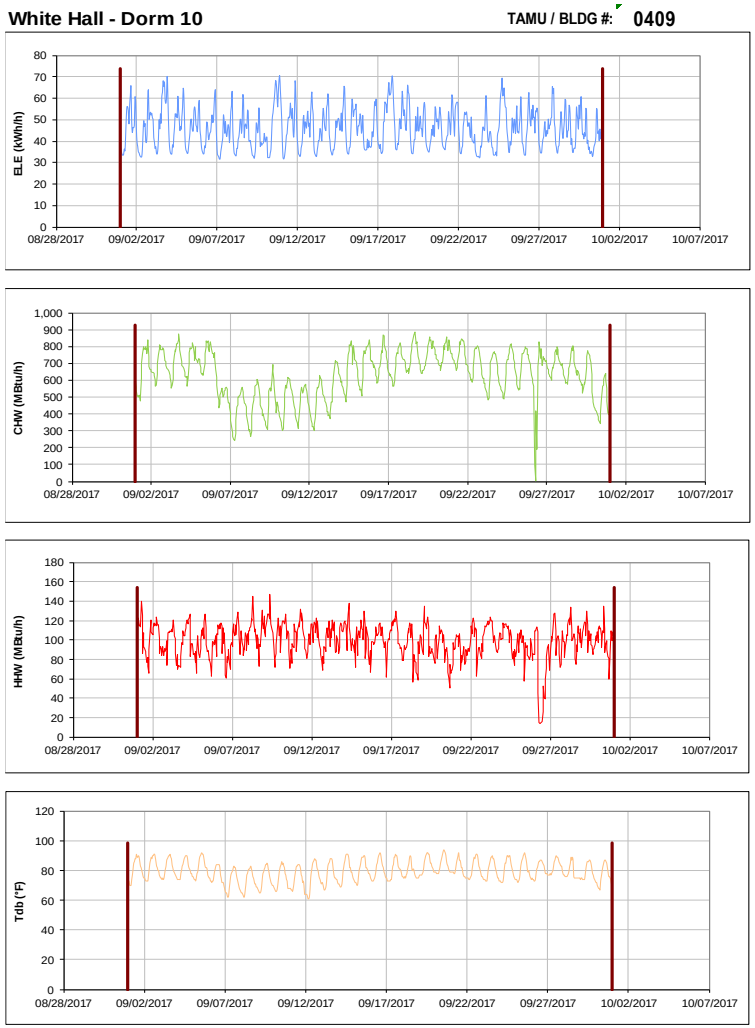


Figure III-42 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Hall - Dorm 10 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

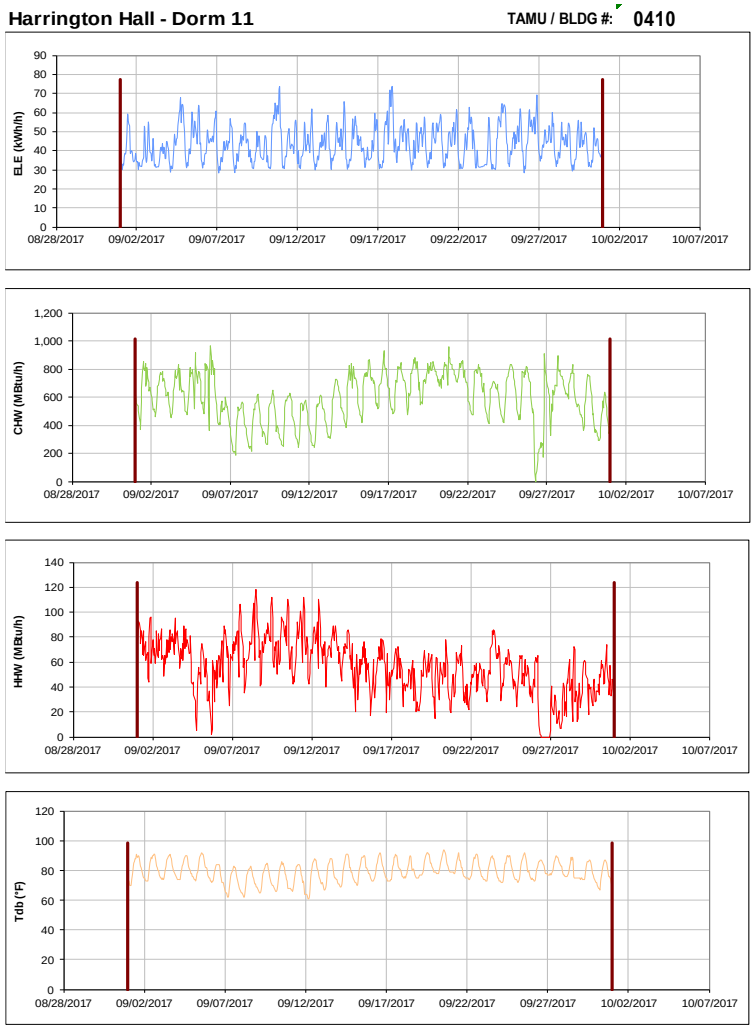


Figure III-43 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Hall - Dorm 11 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

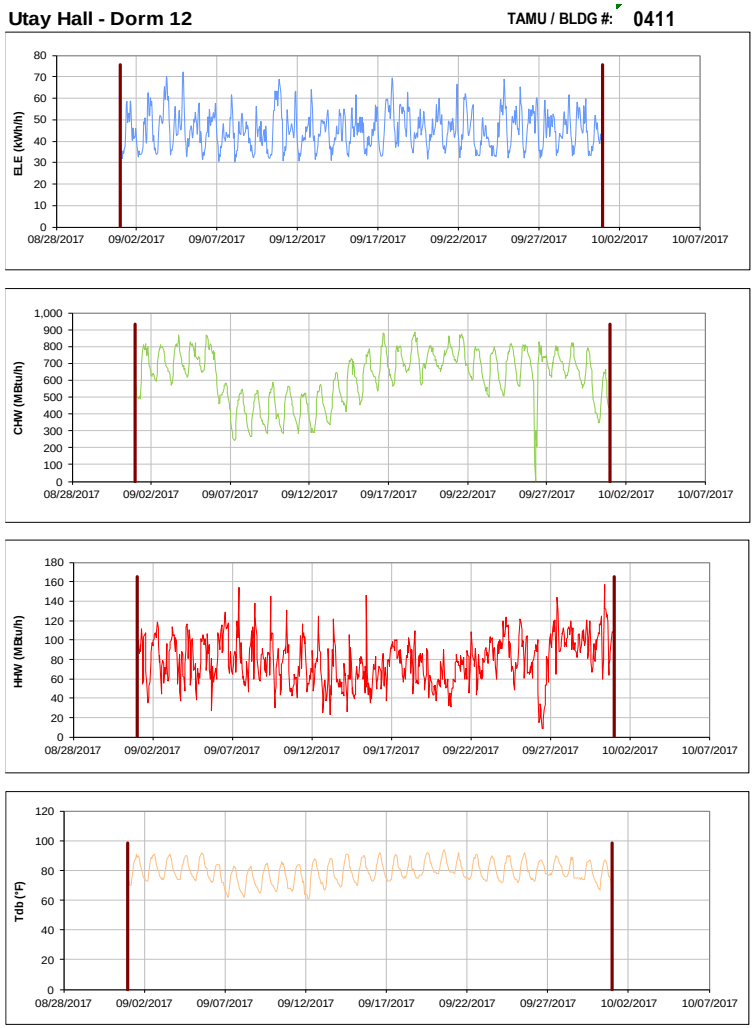


Figure III-44 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utay Hall - Dorm 12 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

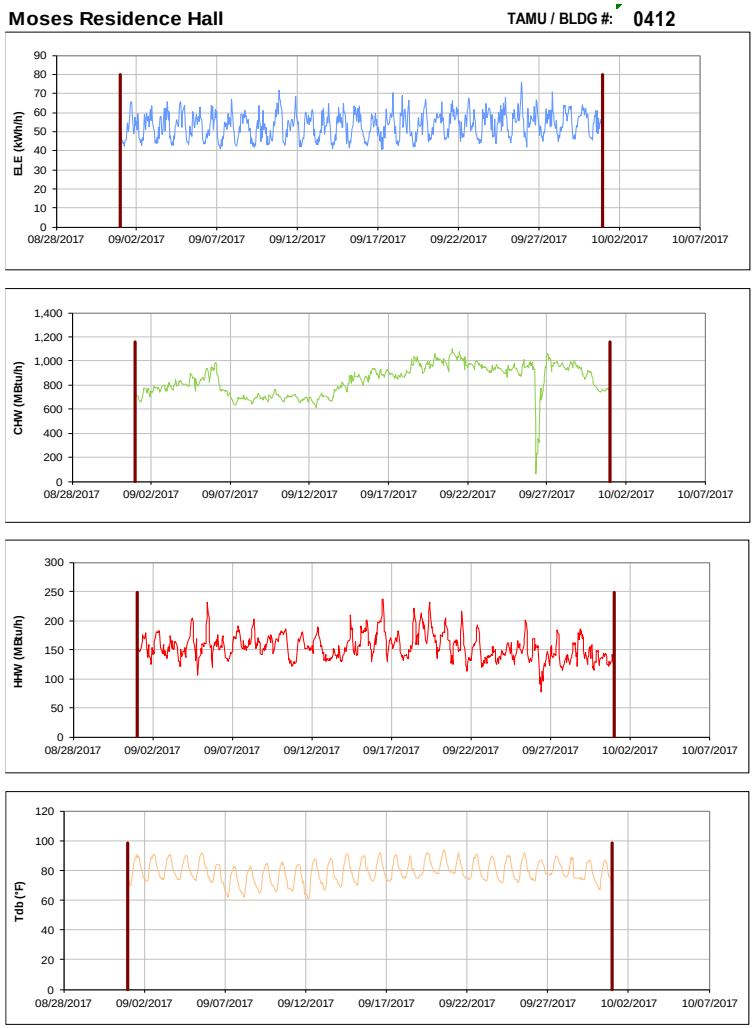


Figure III-45 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Moses Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

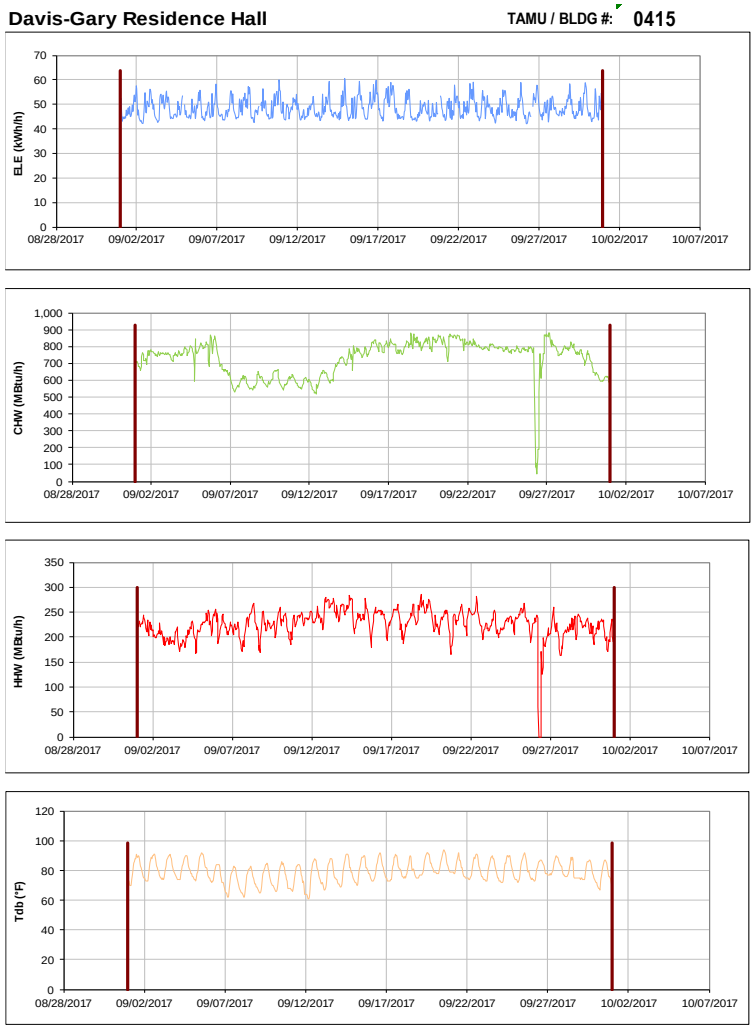


Figure III-46 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis-Gary Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

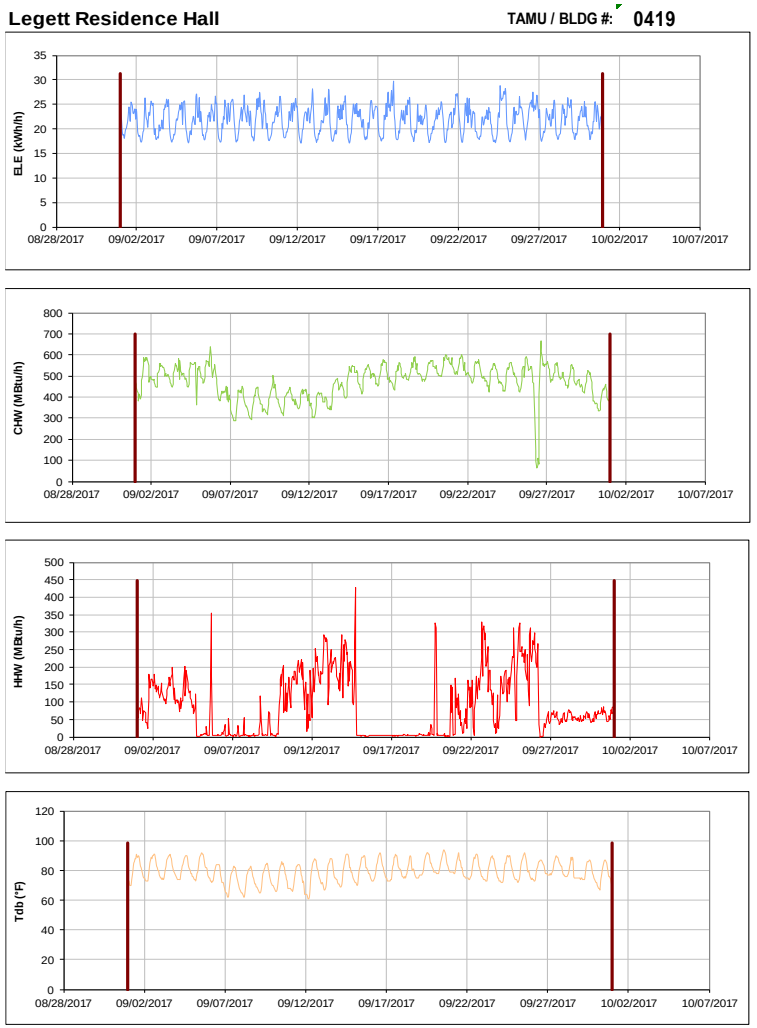


Figure III-47 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Legett Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

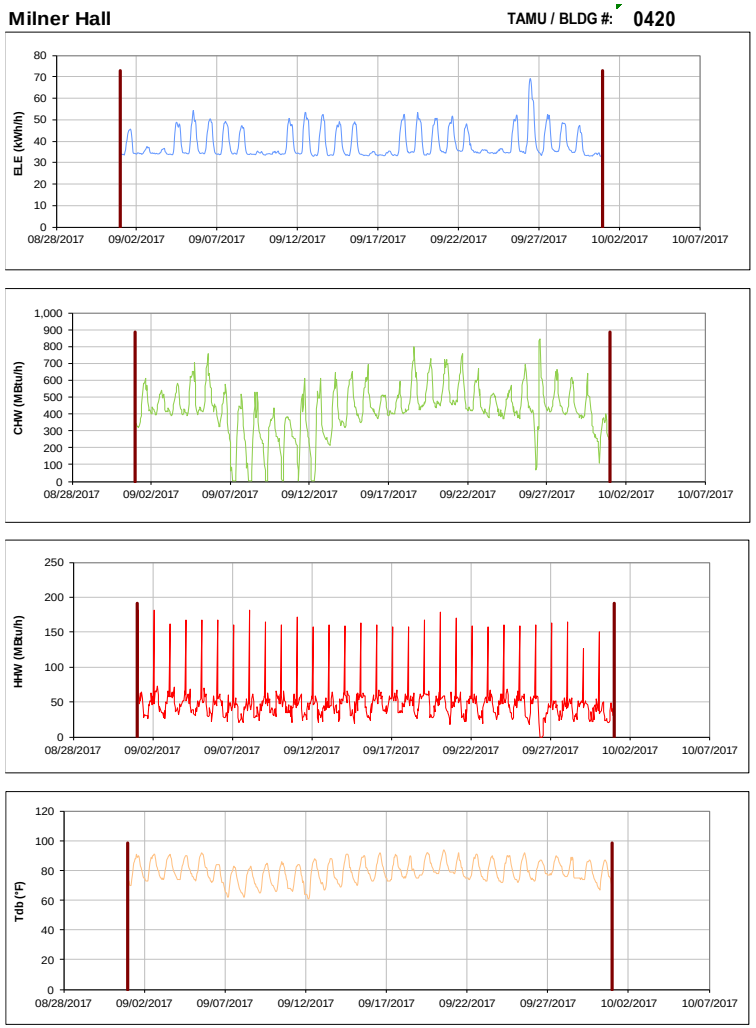


Figure III-48 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Milner Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

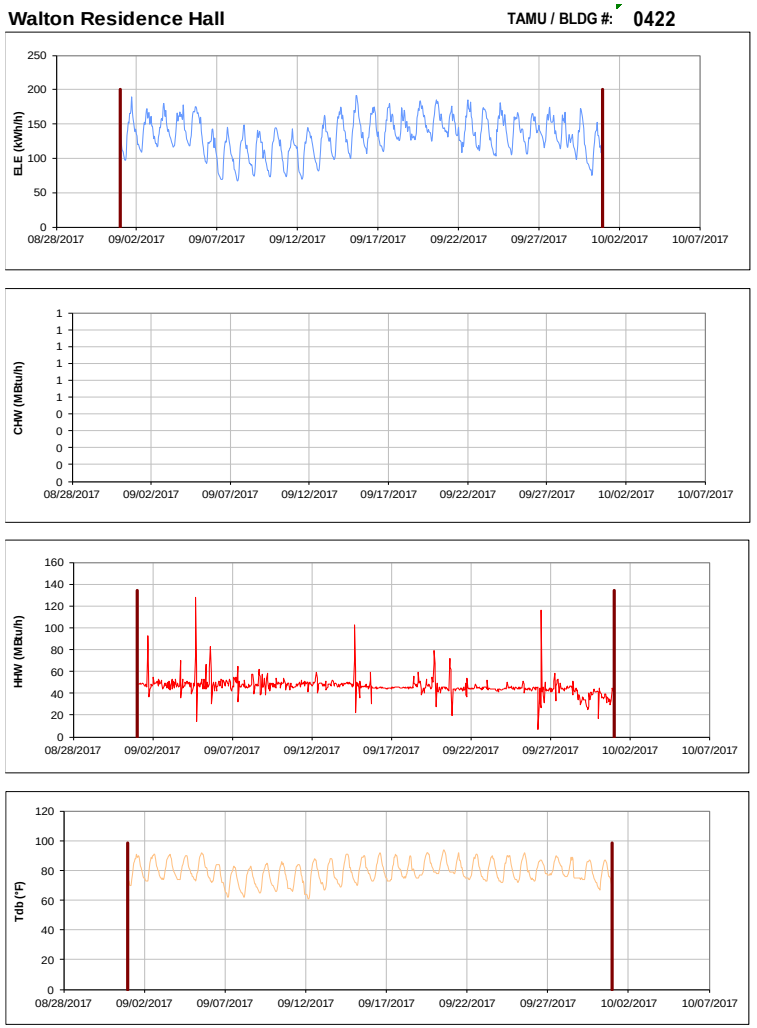


Figure III-49 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Walton Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

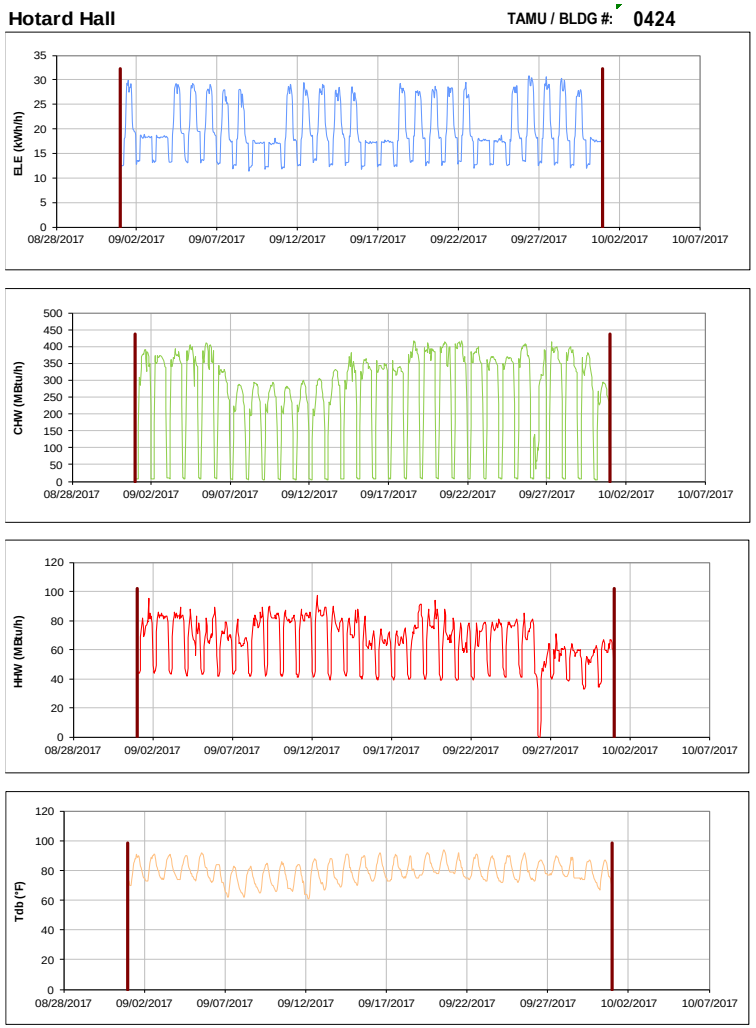


Figure III-50 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hotard Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

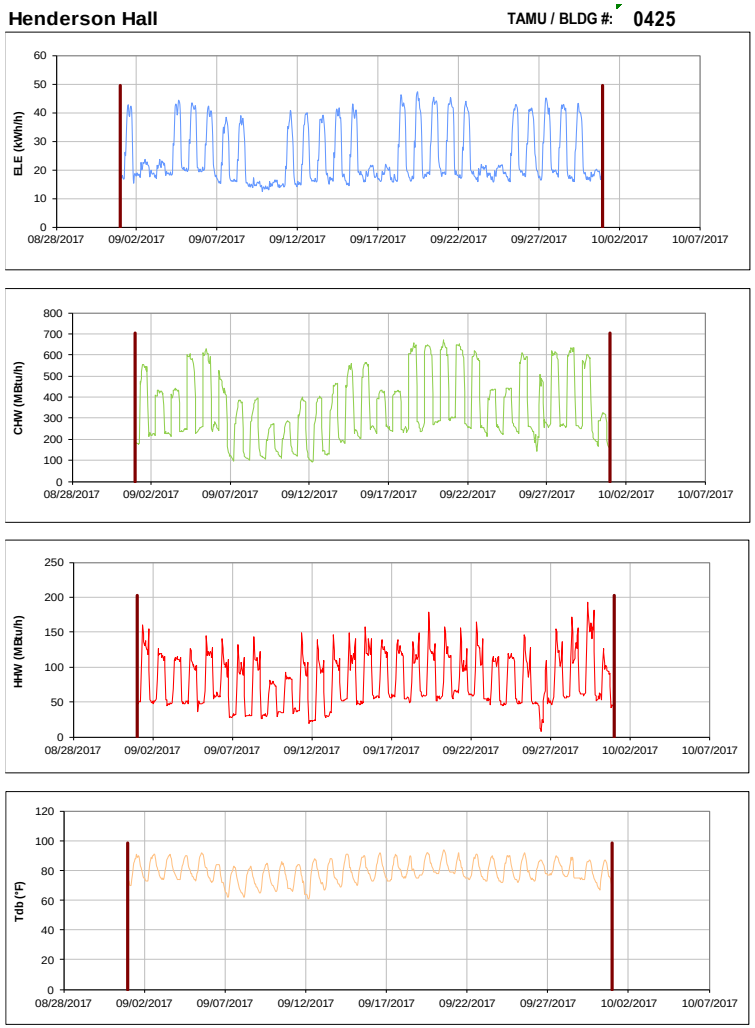


Figure III-51 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Henderson Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

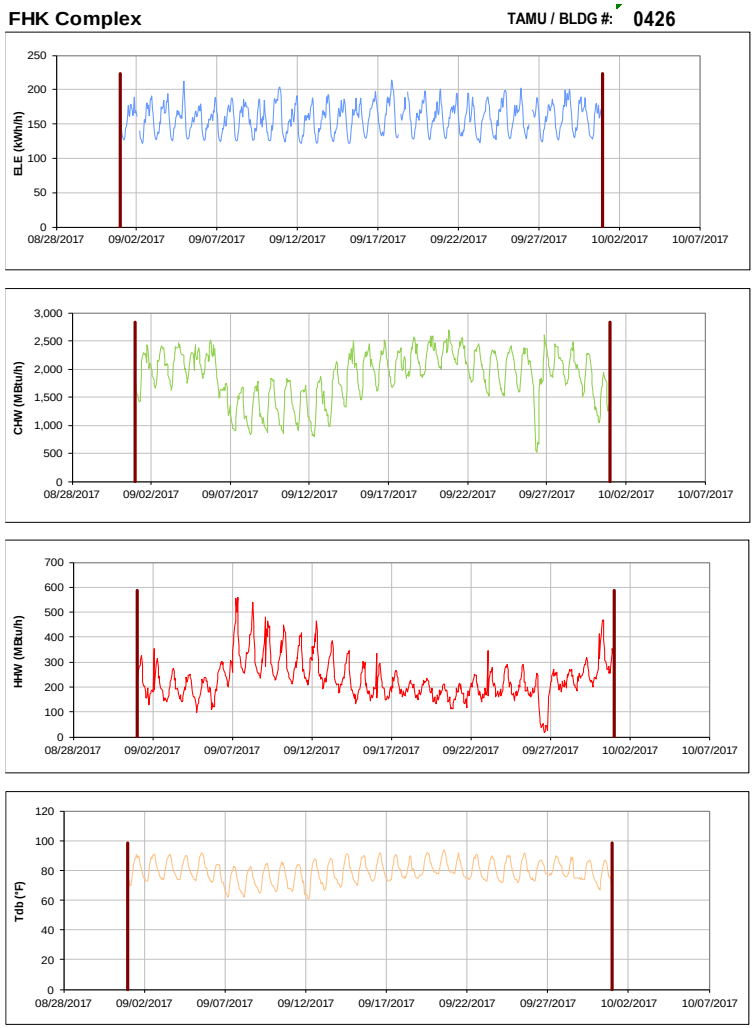


Figure III-52 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for FHK Complex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

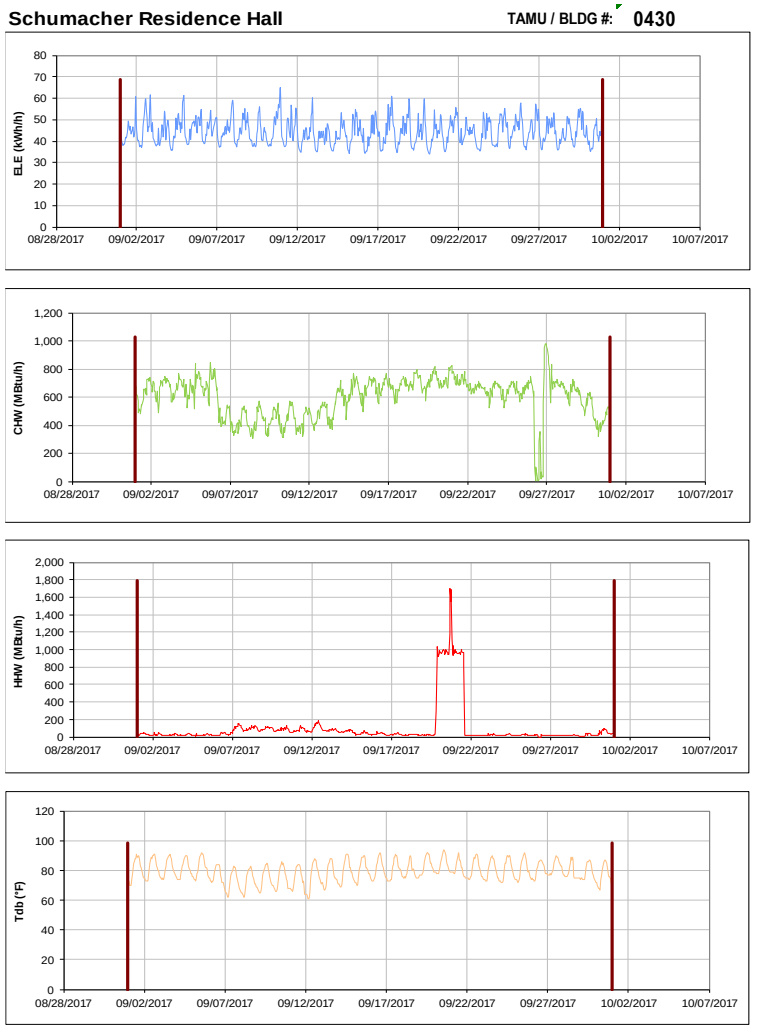


Figure III-53 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Schumacher Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

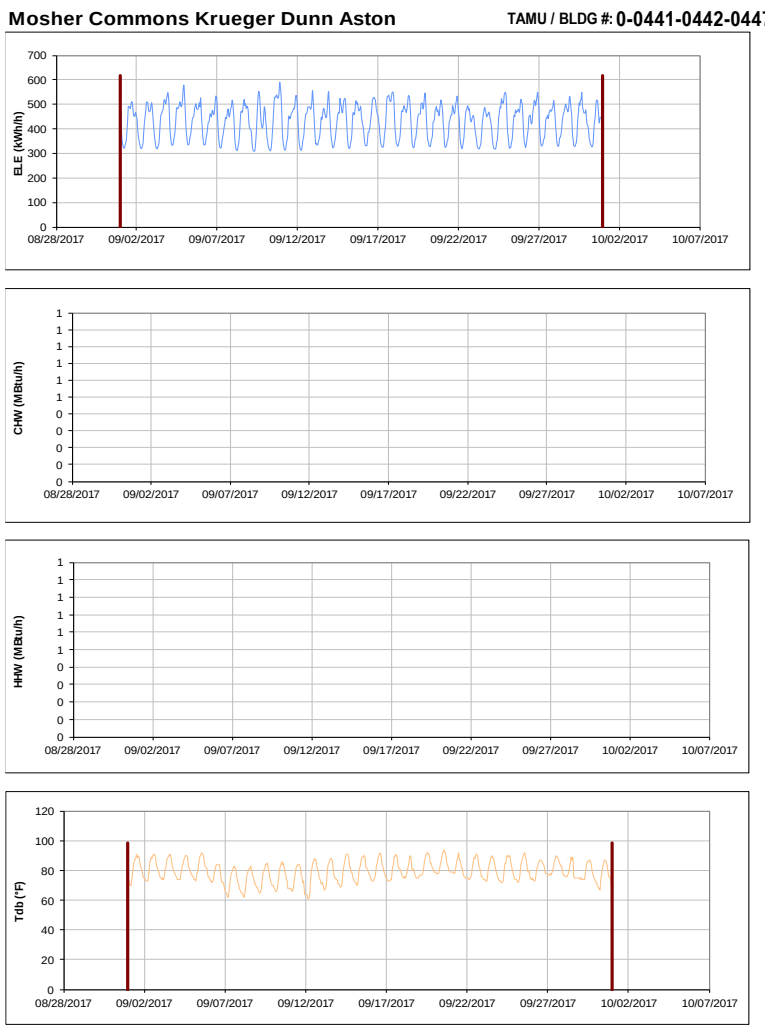


Figure III-54 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Commons Krueger Dunn Aston during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

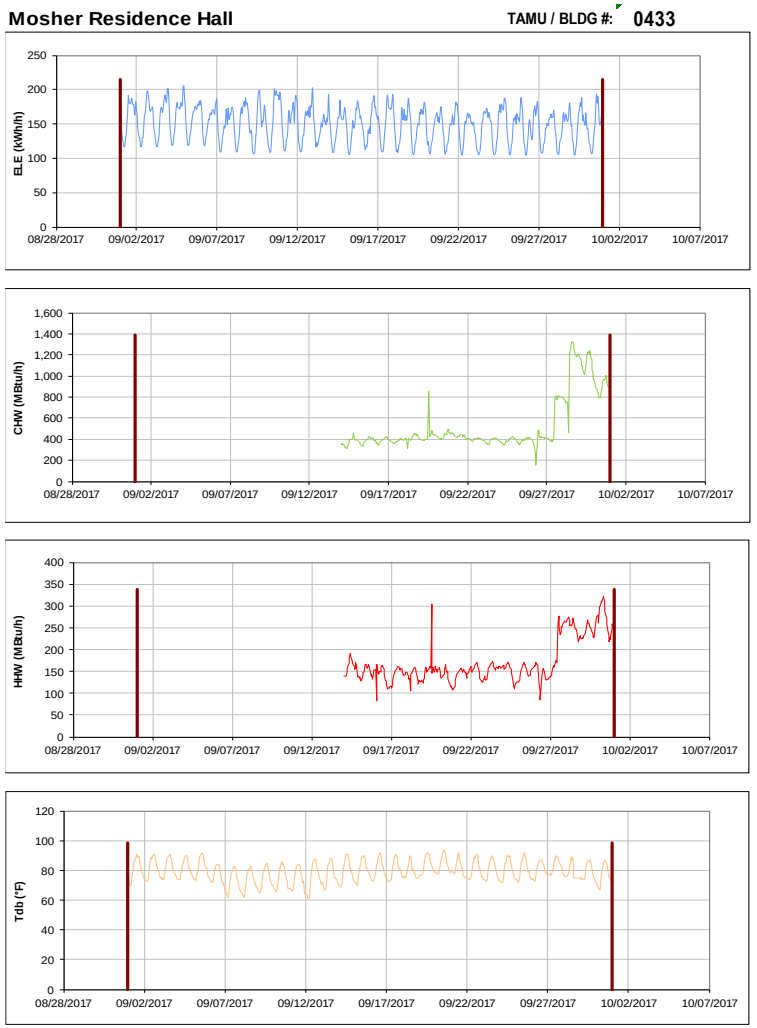


Figure III-55 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

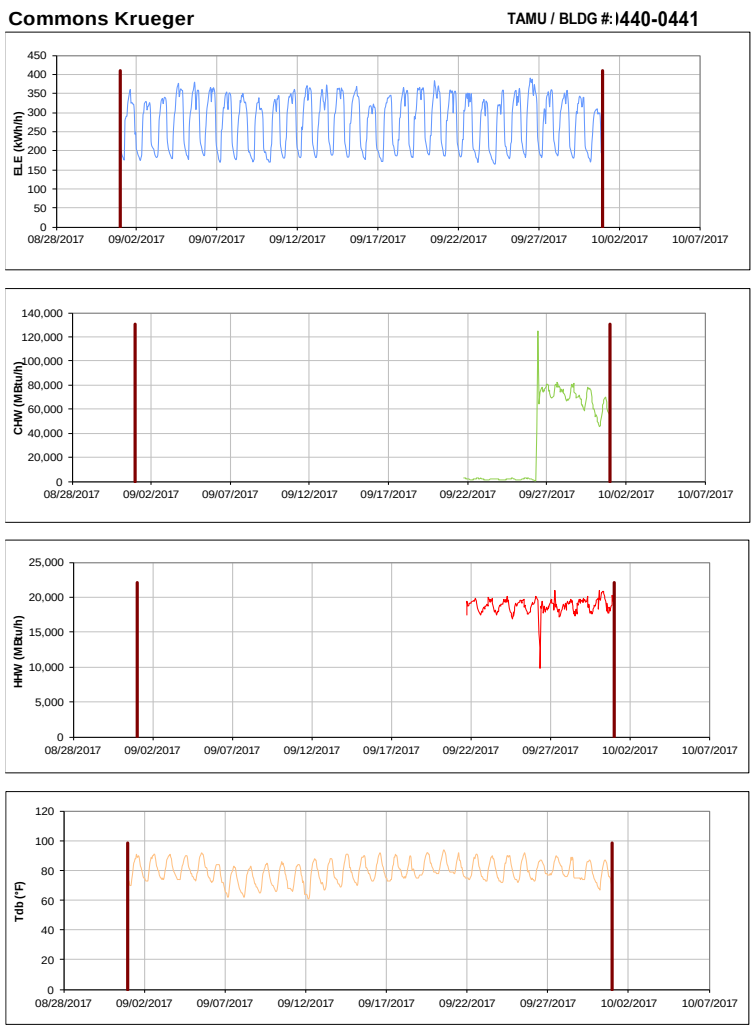


Figure III-56 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Commons Krueger during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

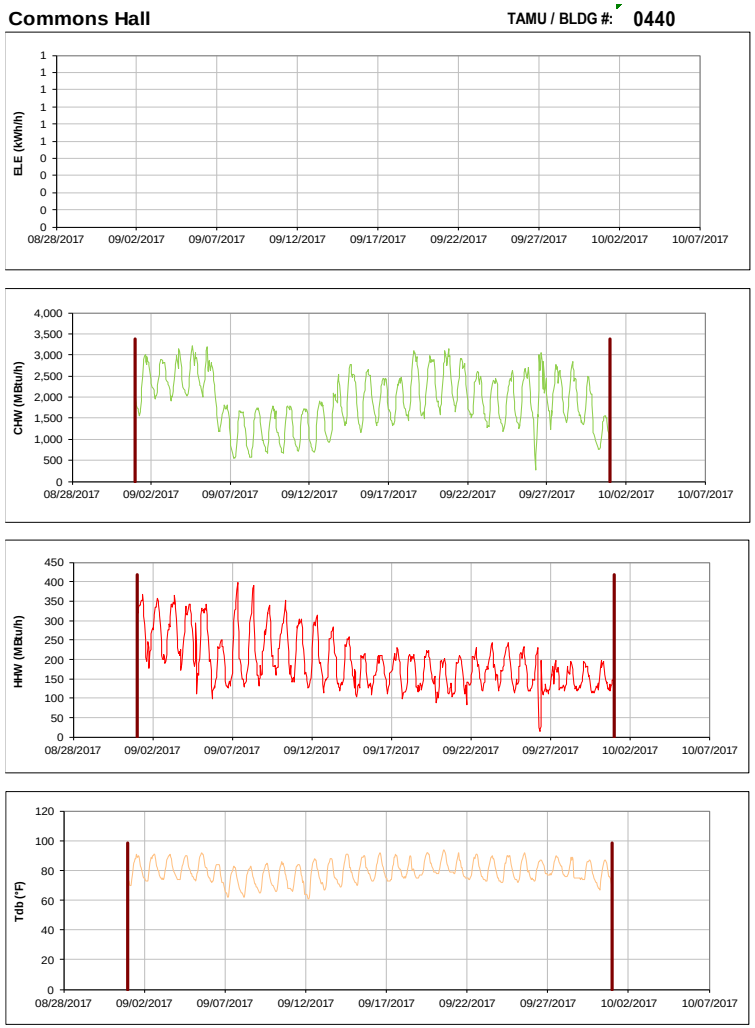


Figure III-57 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Commons Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

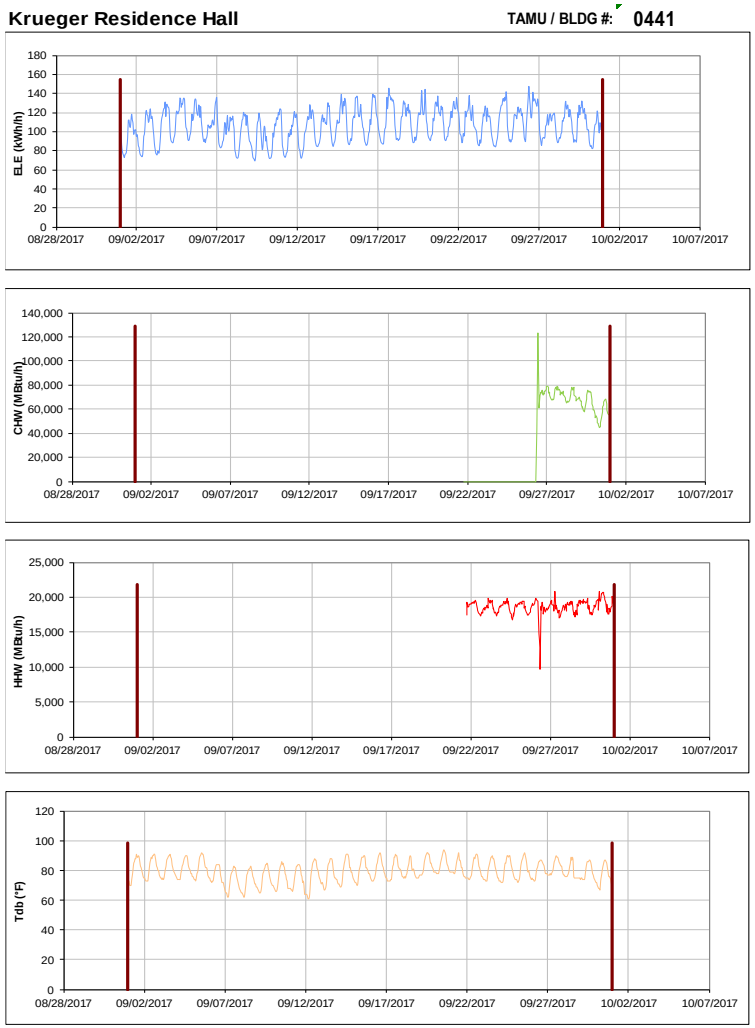


Figure III-58 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Krueger Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

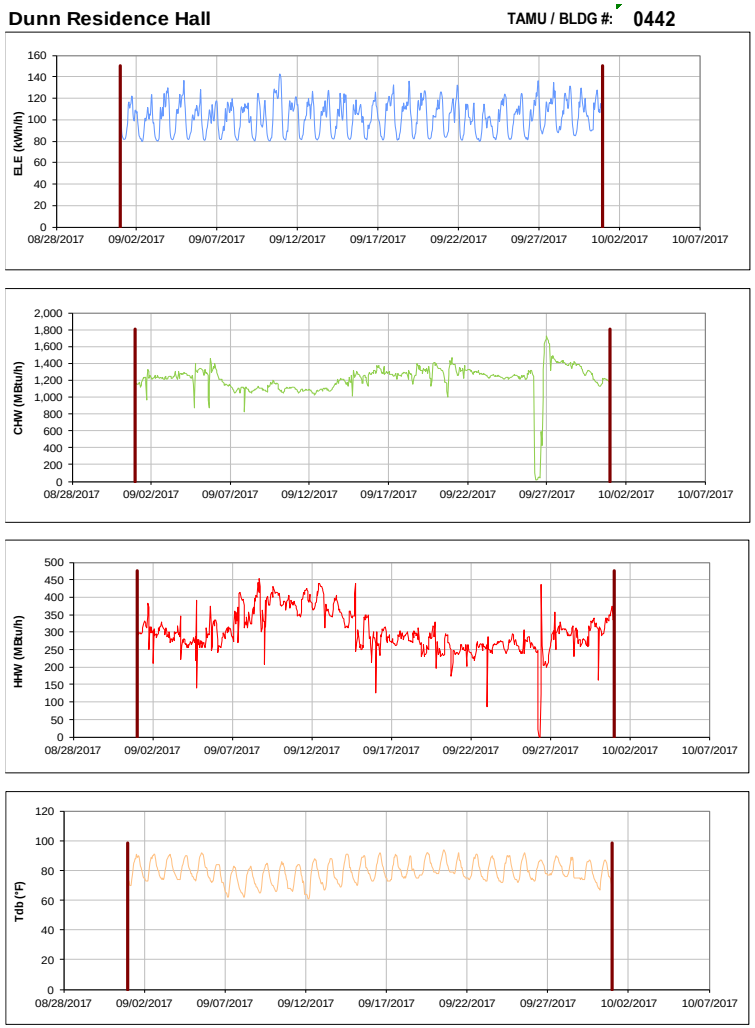


Figure III-59 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Dunn Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

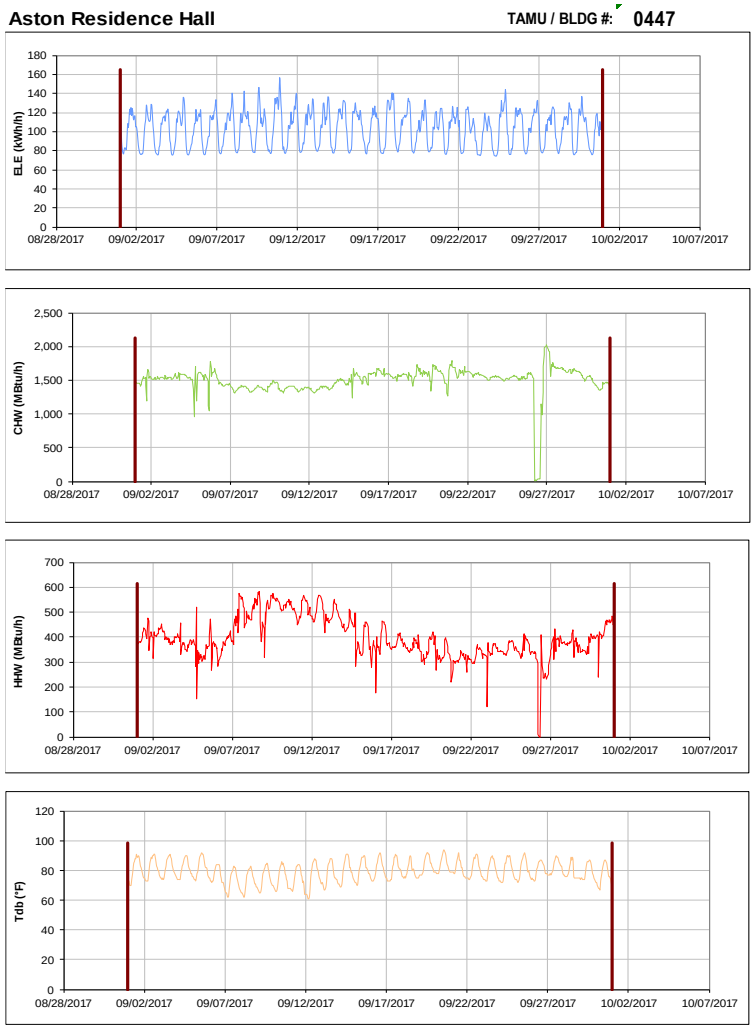


Figure III-60 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Aston Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

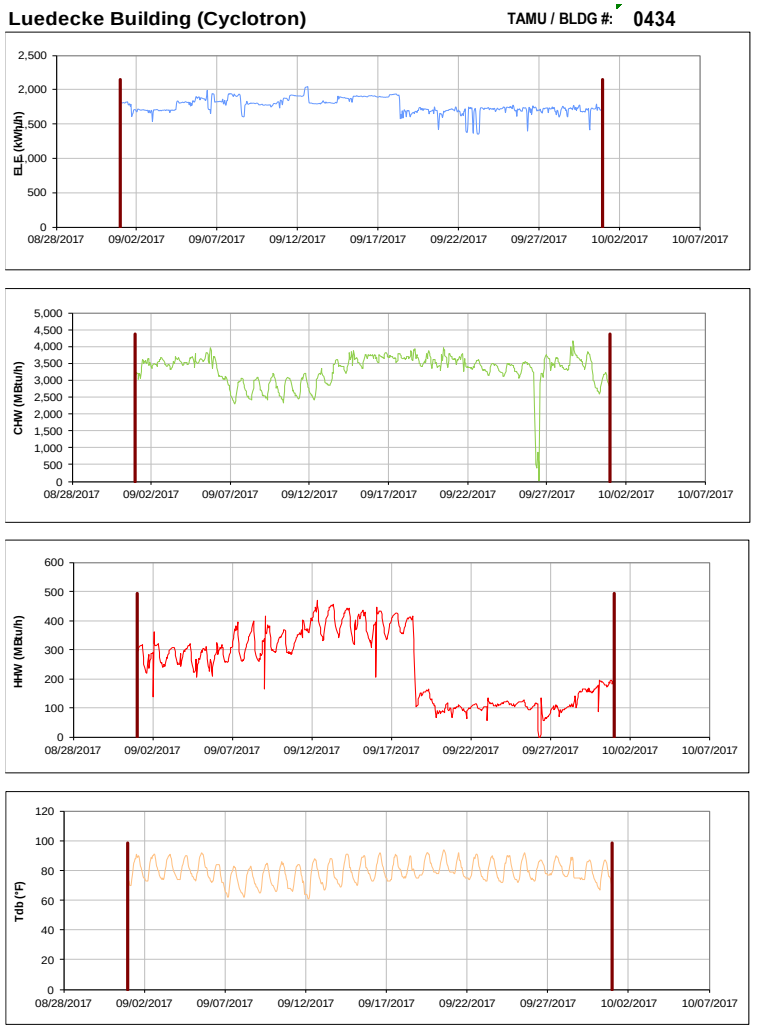


Figure III-61 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Luedecke Building (Cyclotron) during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

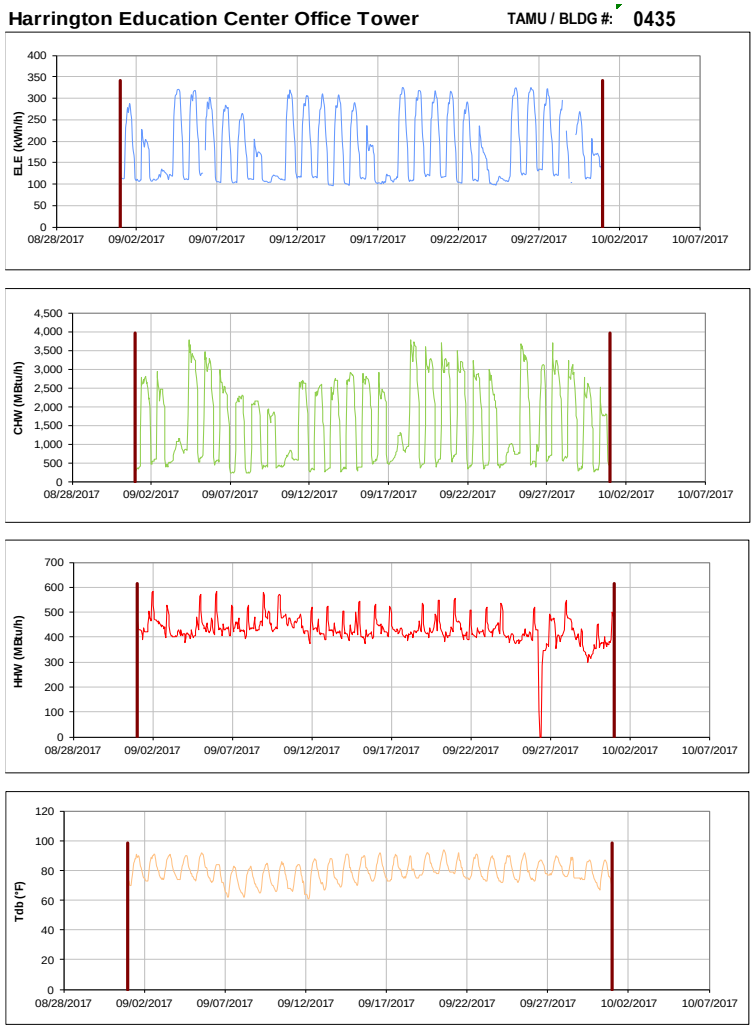


Figure III-62 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Office Tower during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

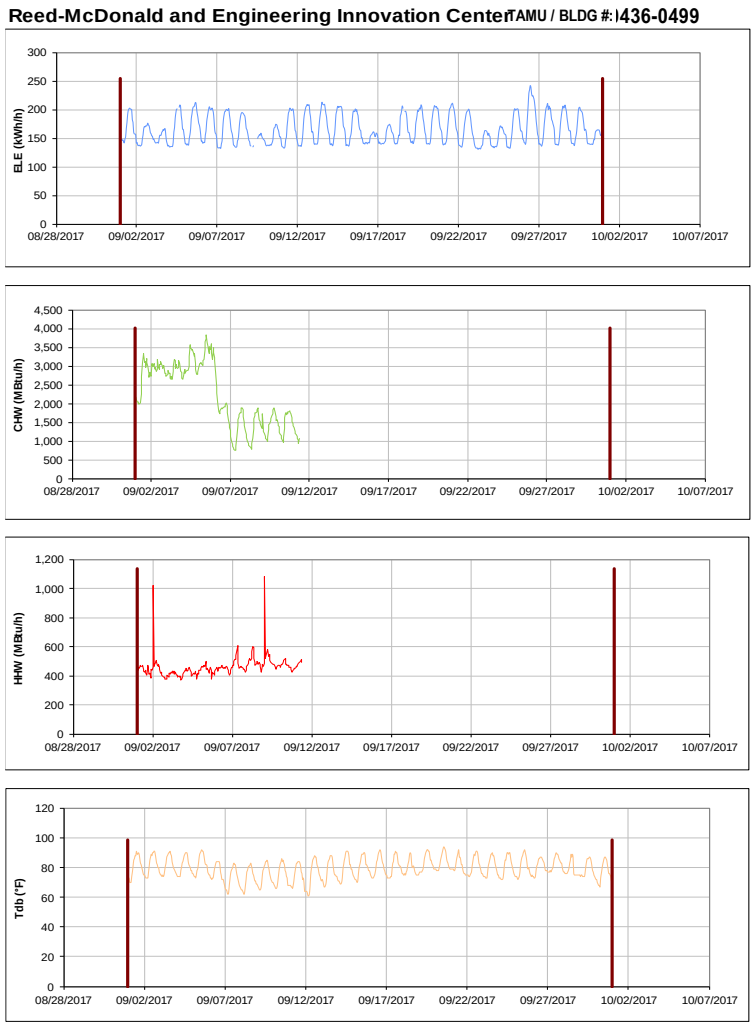


Figure III-63 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald and Engineering Innovation Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

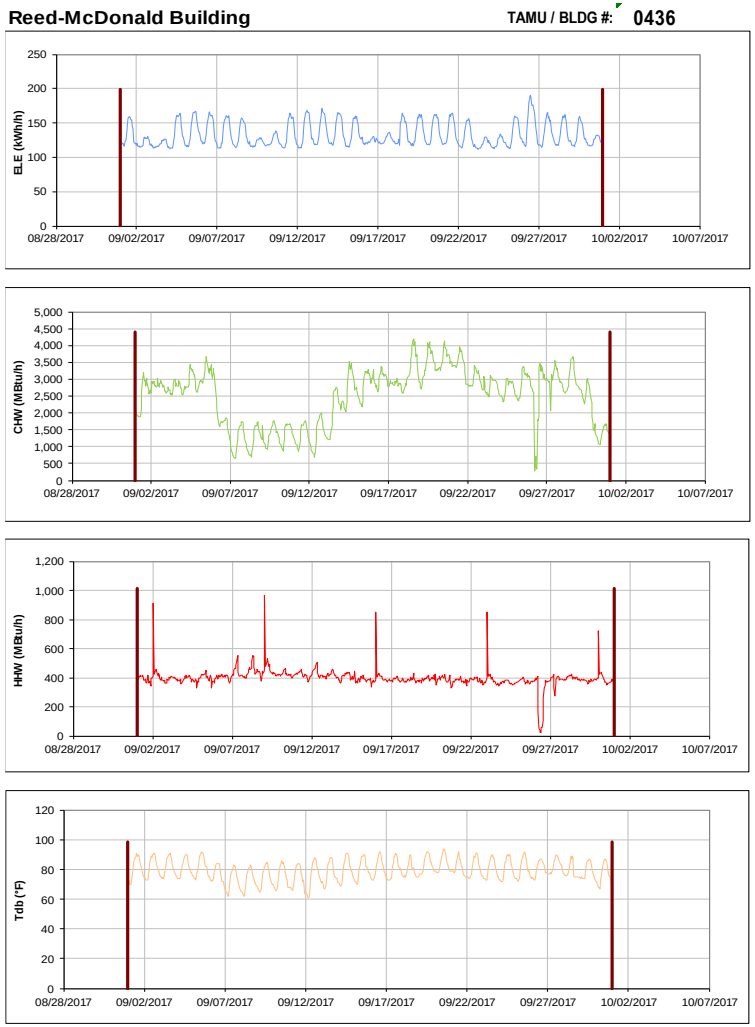


Figure III-64 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

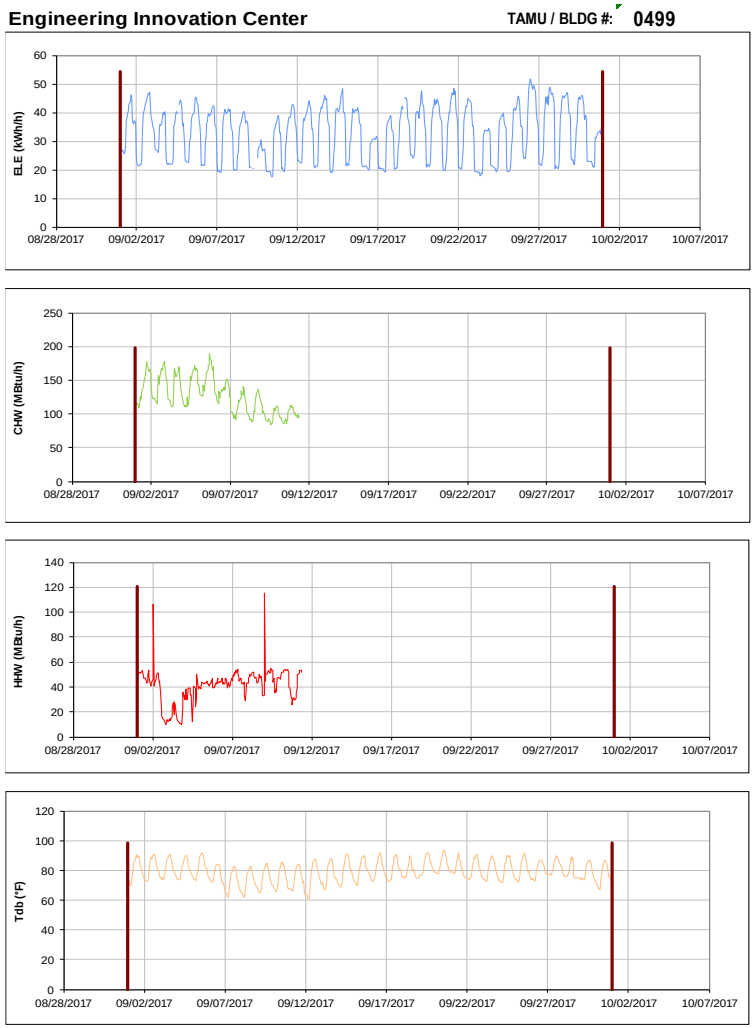


Figure III-65 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Innovation Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

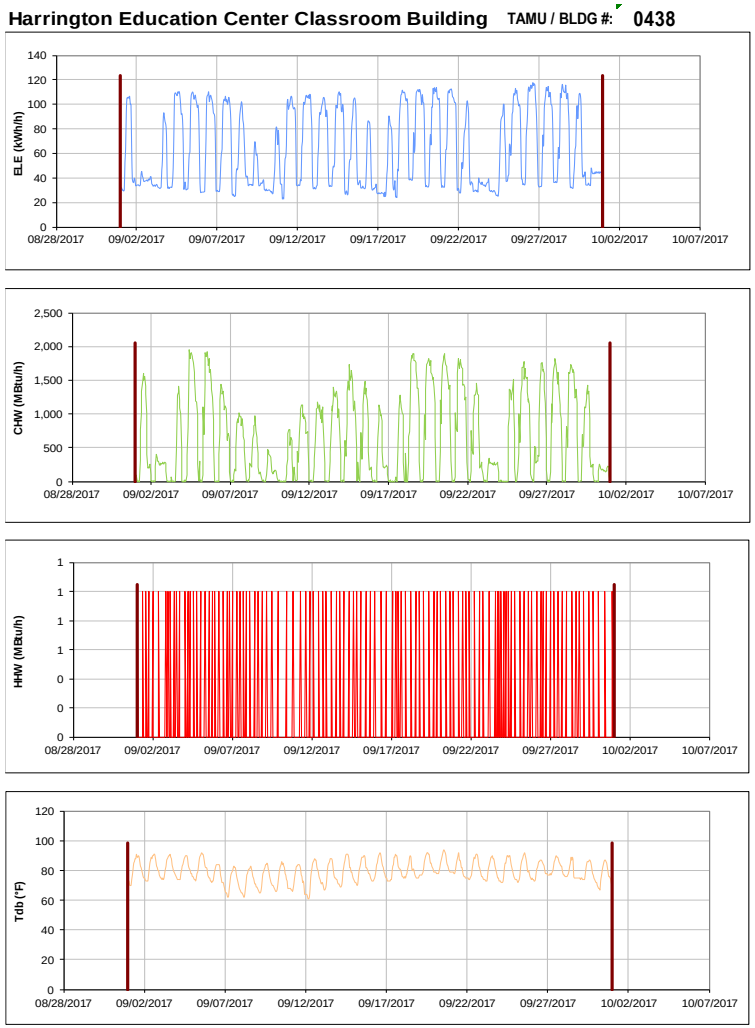


Figure III-66 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Classroom Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

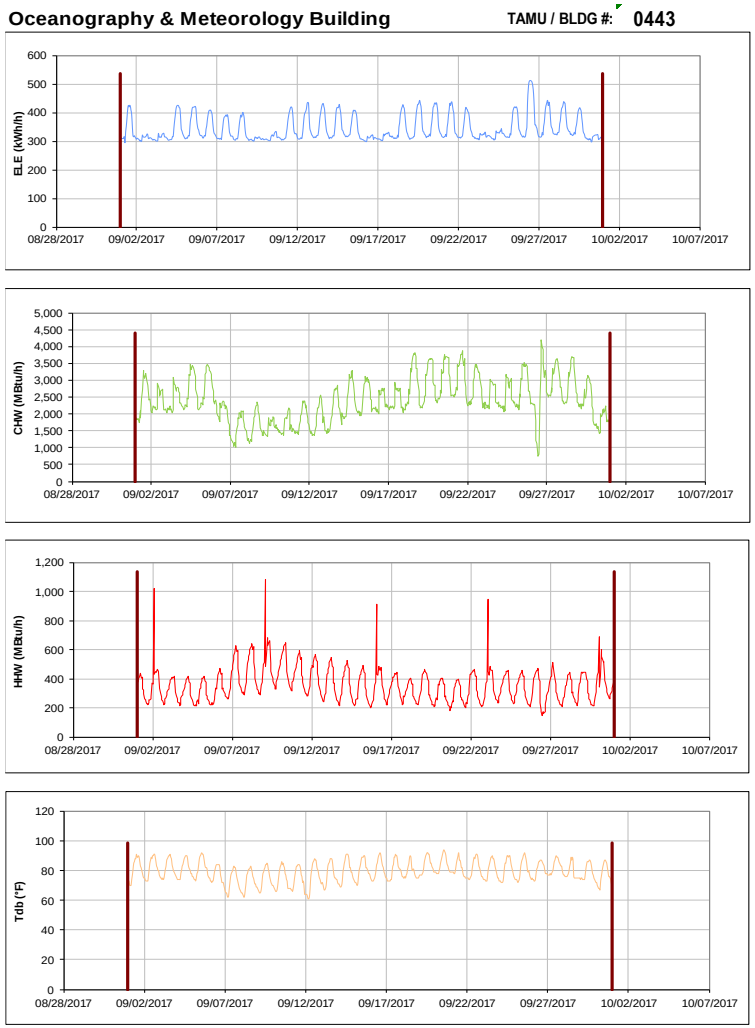


Figure III-67 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Oceanography & Meteorology Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

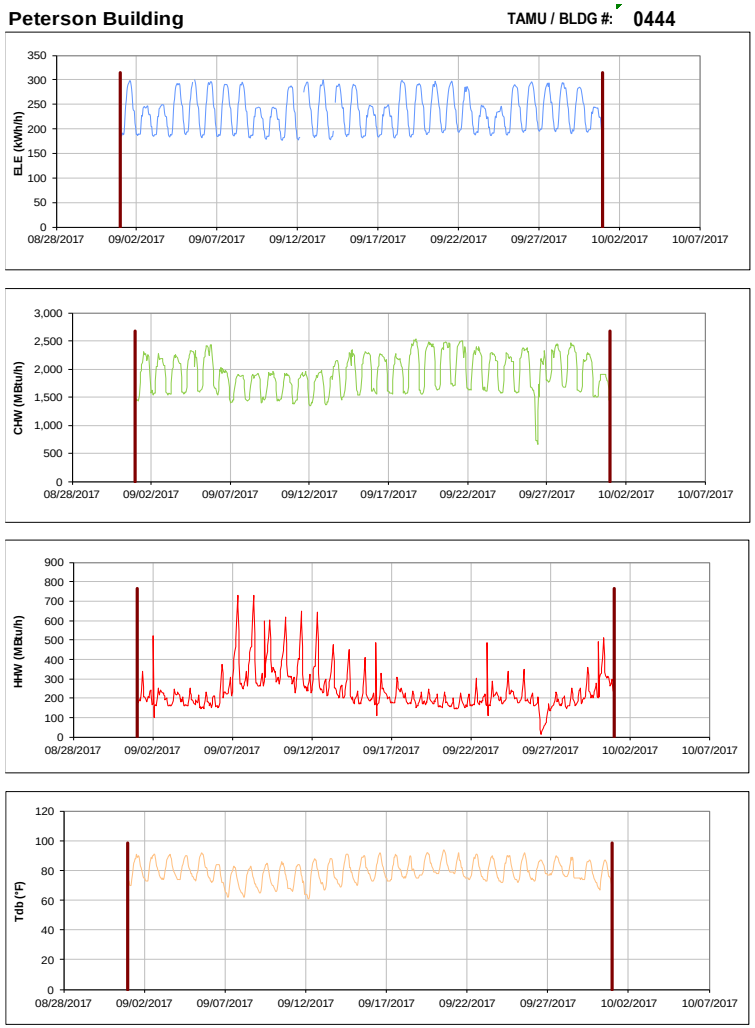


Figure III-68 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Peterson Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

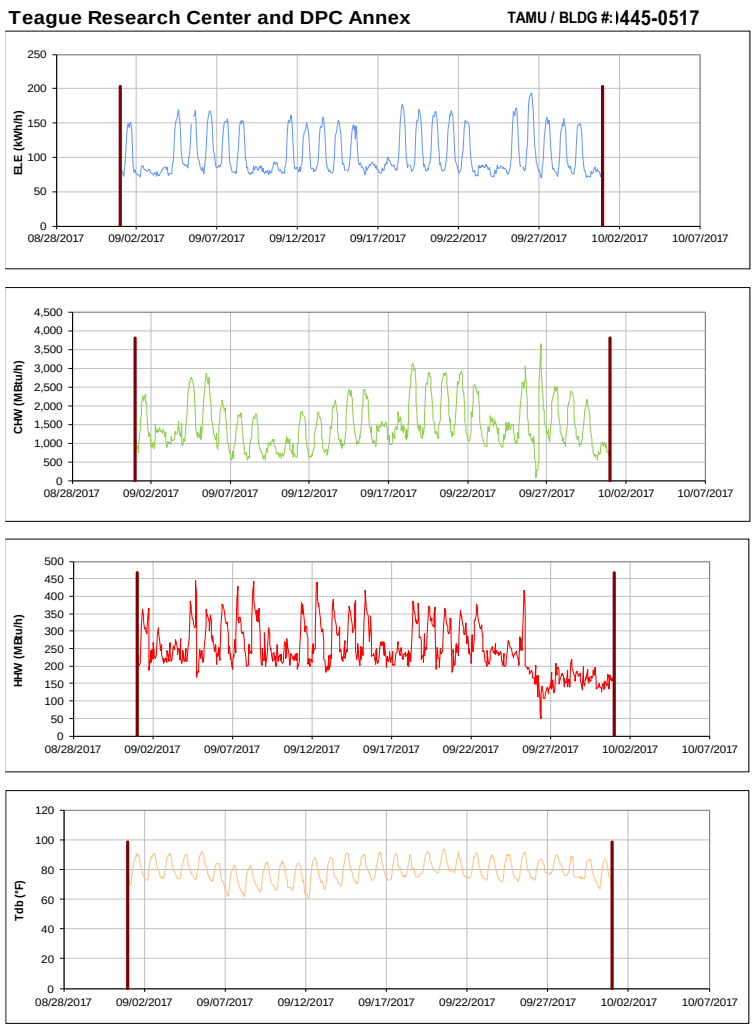


Figure III-69 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center and DPC Annex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

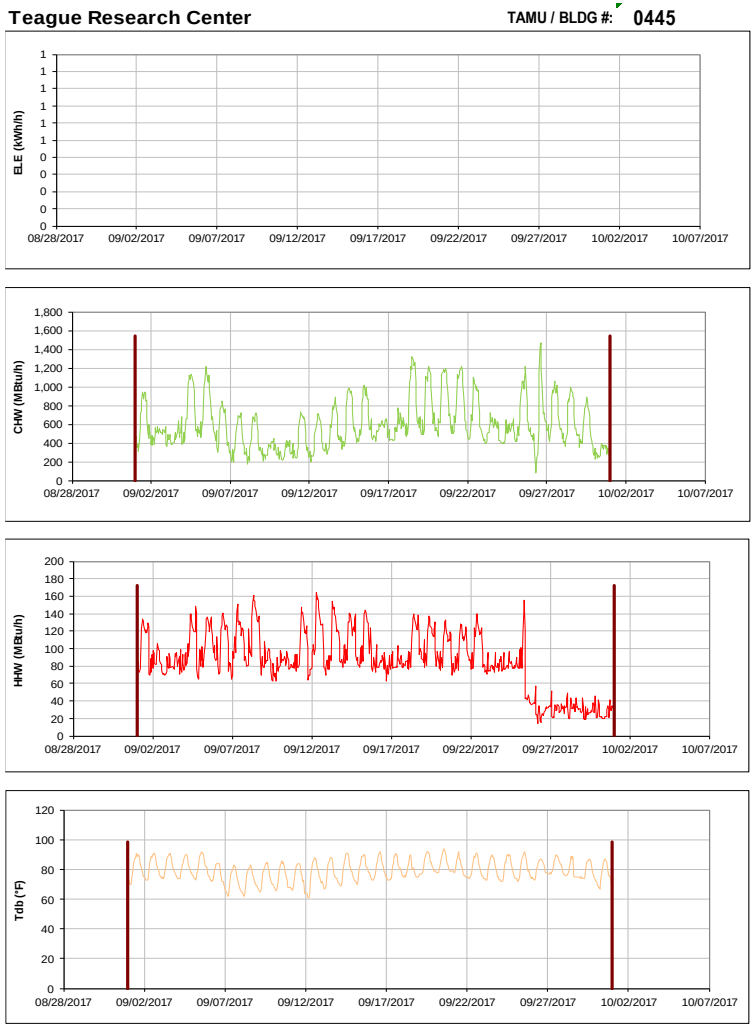


Figure III-70 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

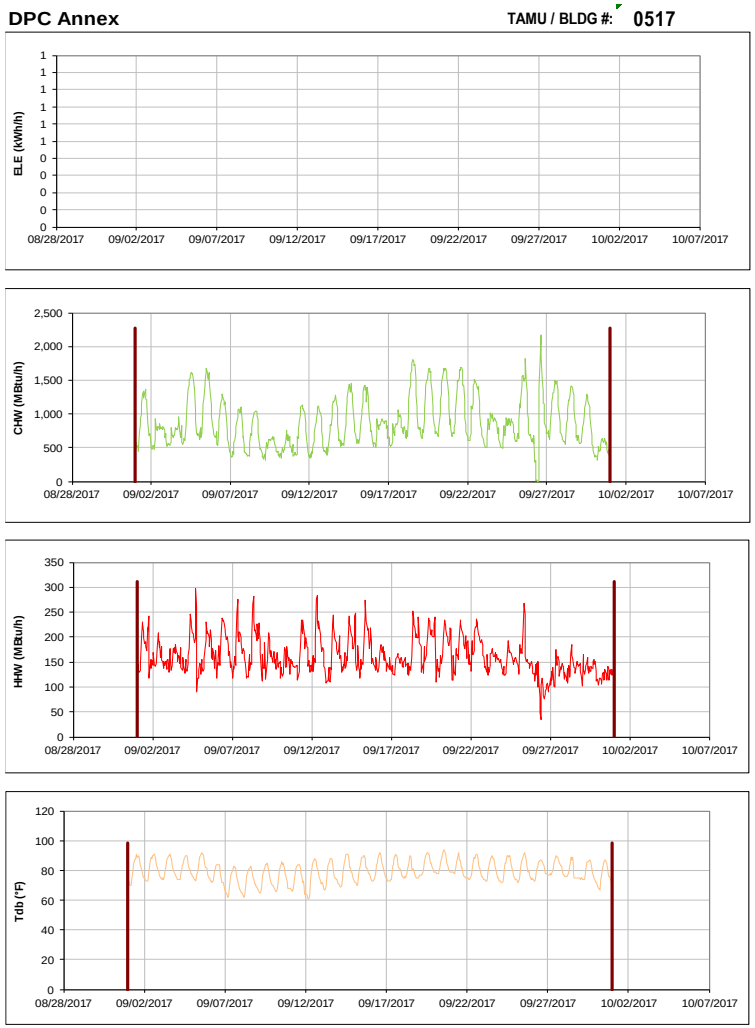


Figure III-71 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for DPC Annex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

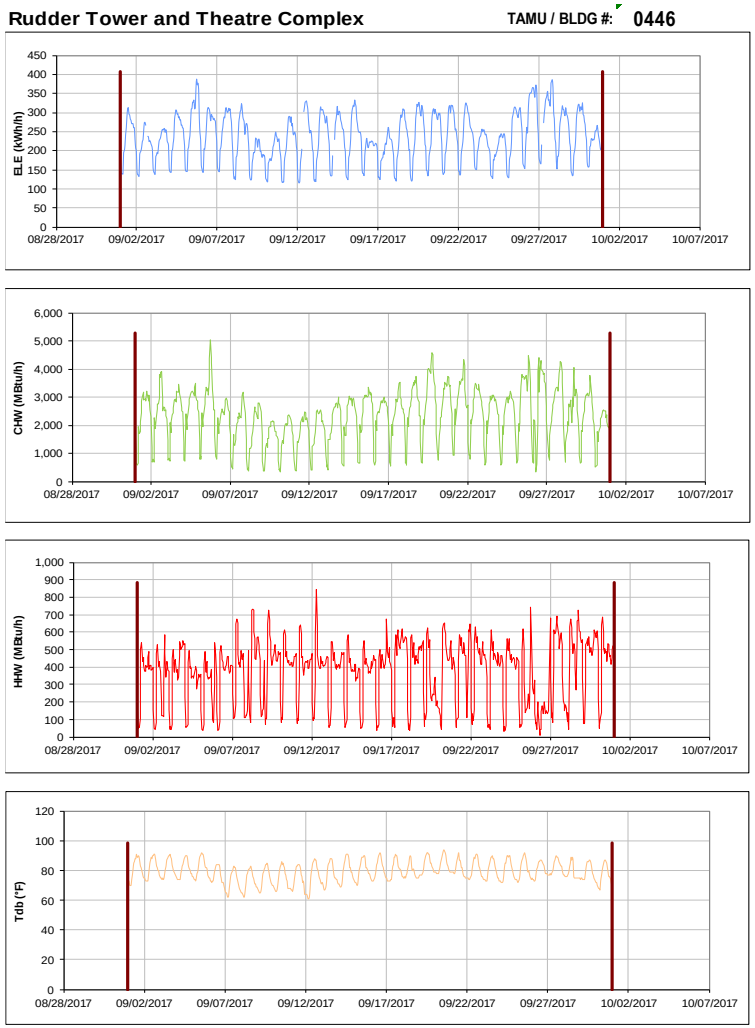


Figure III-72 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower and Theatre Complex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

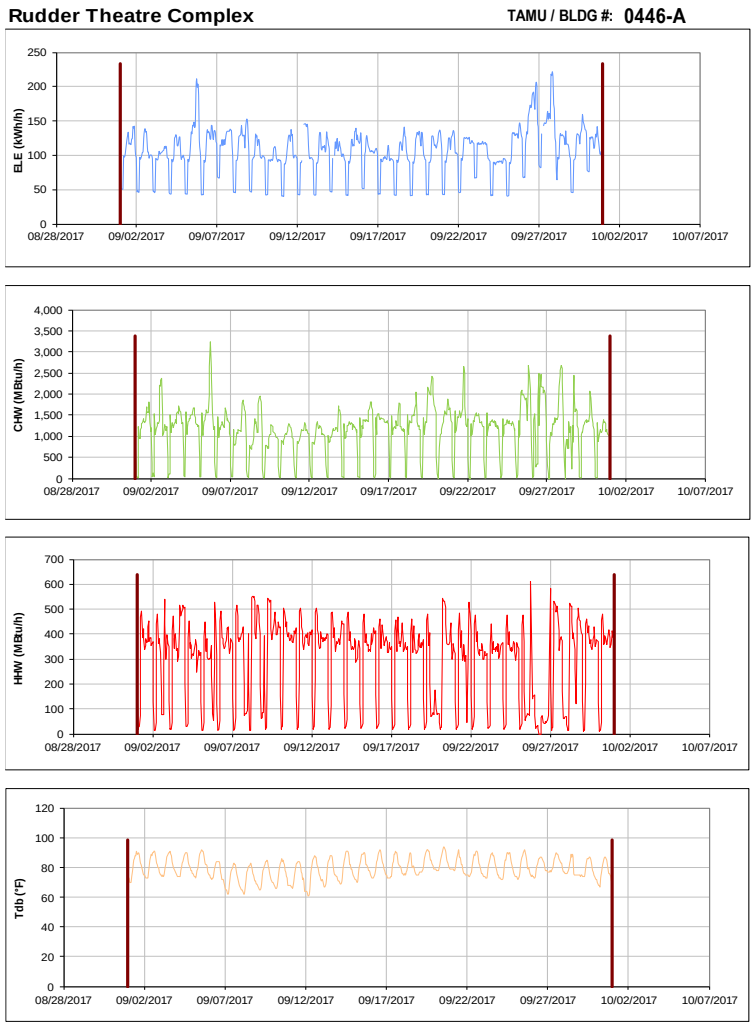


Figure III-73 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Theatre Complex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

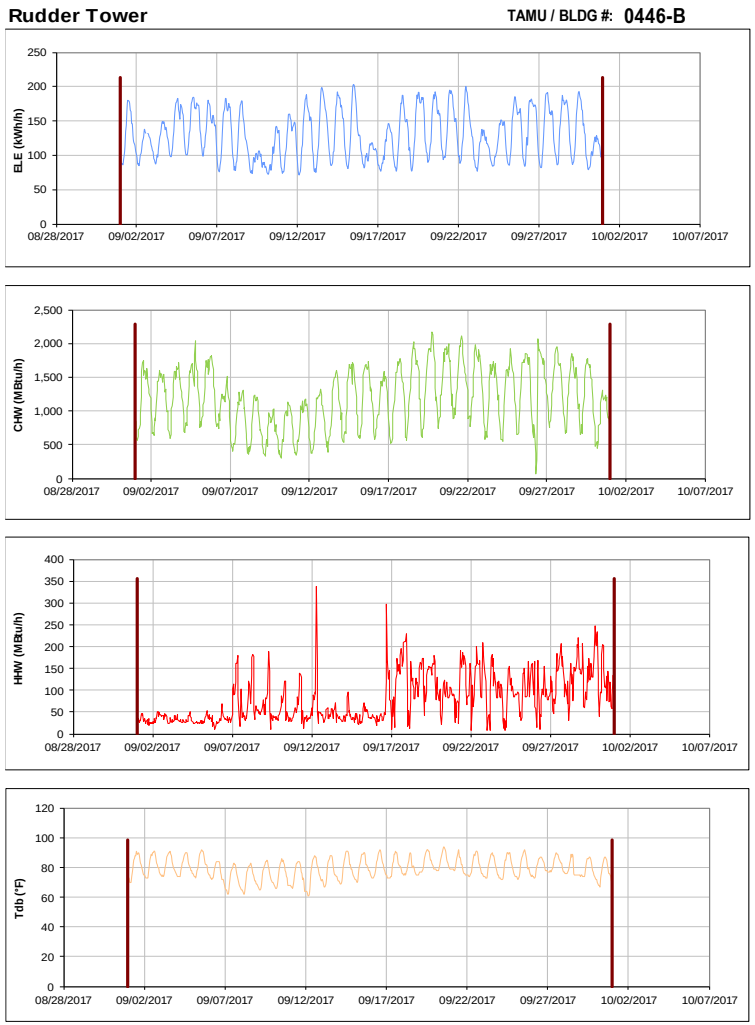


Figure III-74 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

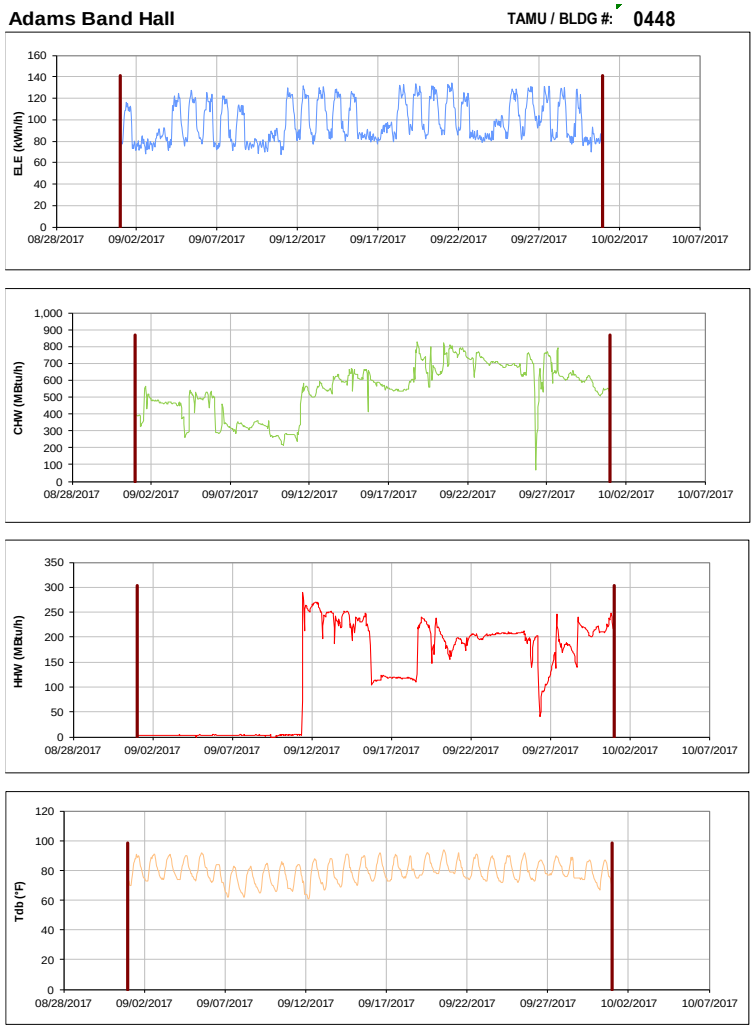


Figure III-75 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Adams Band Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

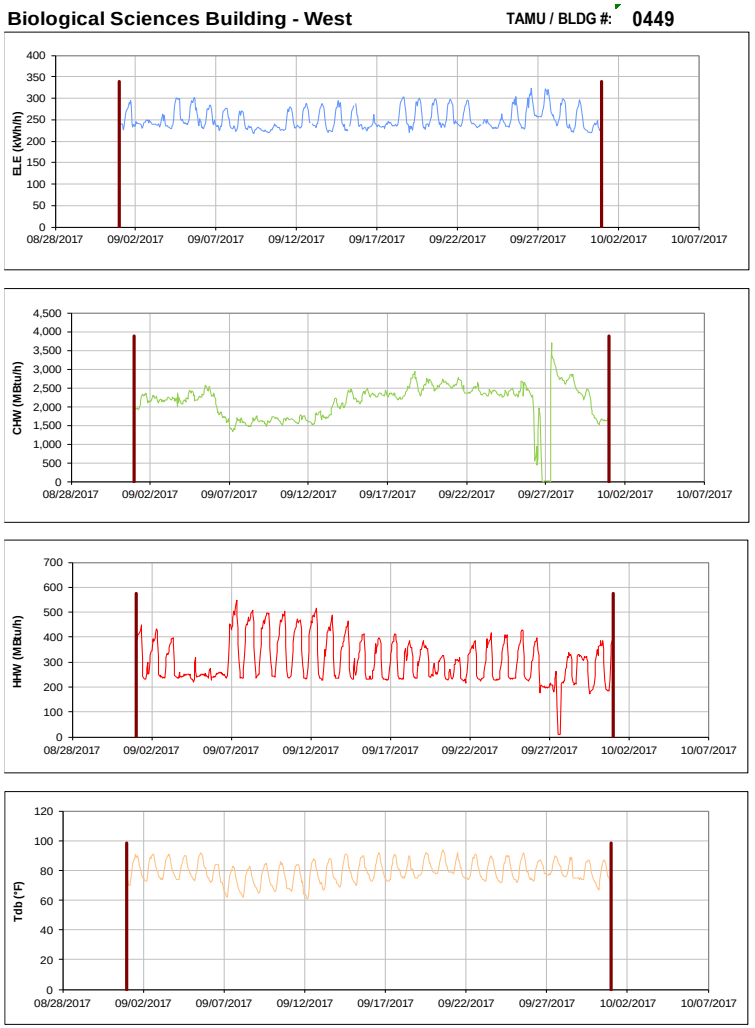


Figure III-76 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - West during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

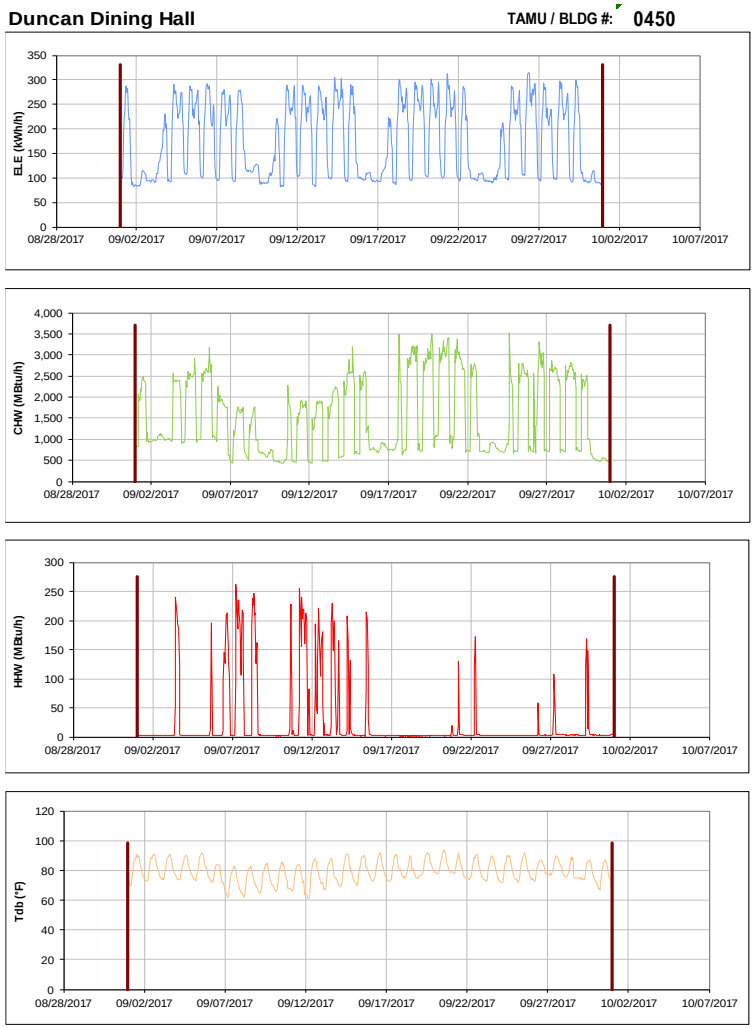


Figure III-77 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Duncan Dining Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

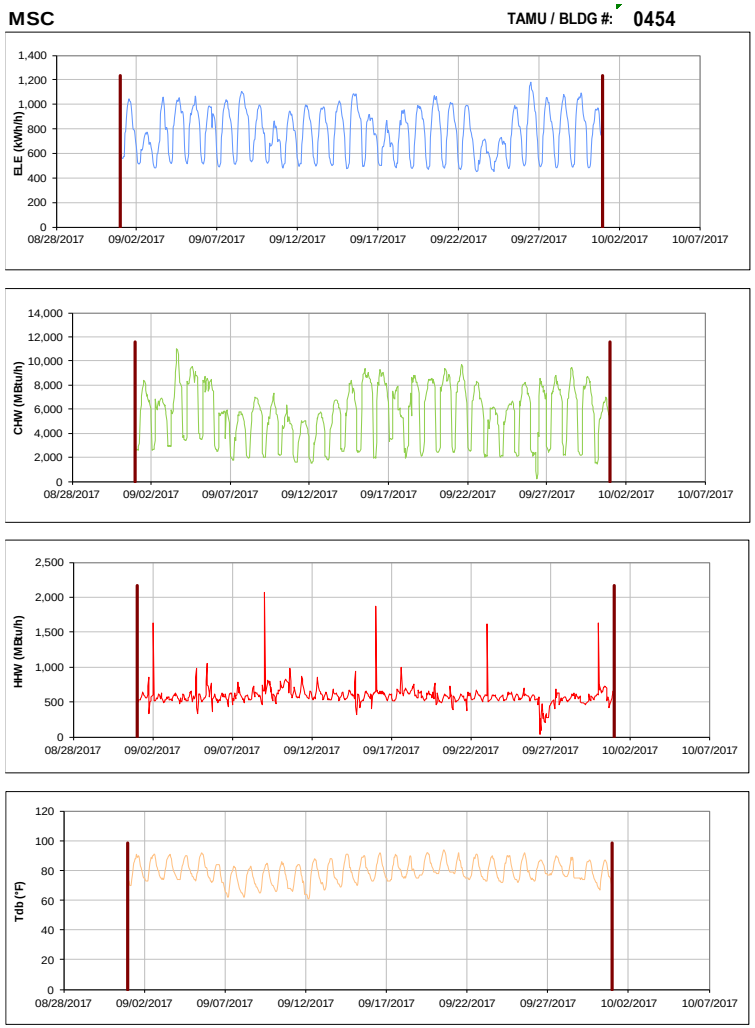


Figure III-78 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for MSC during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

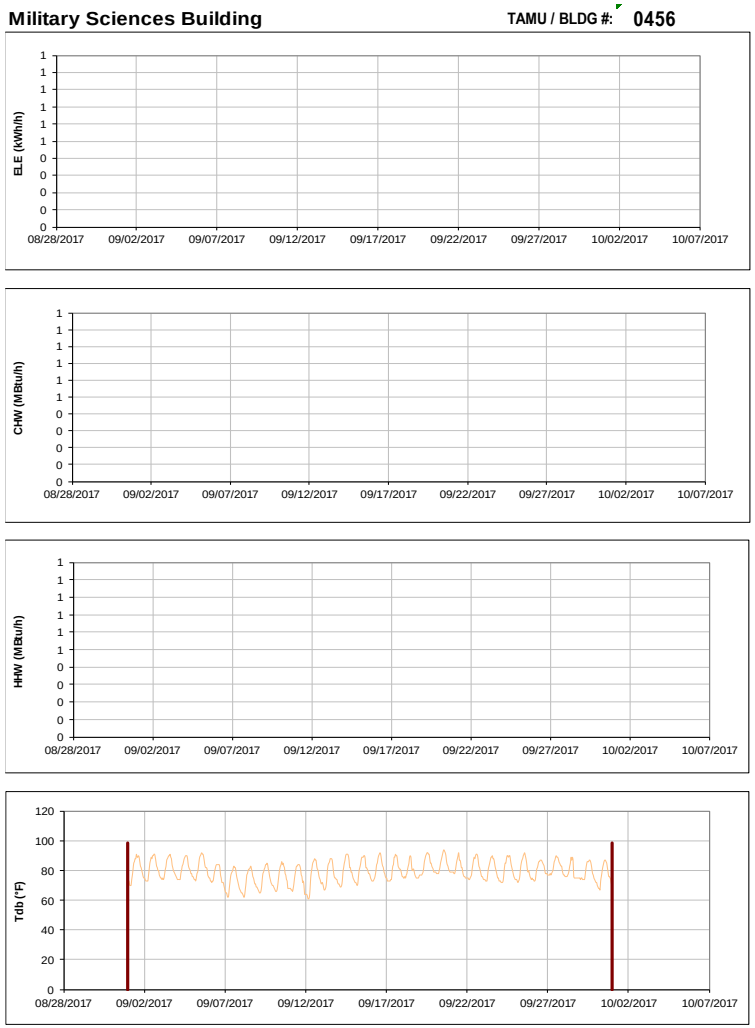


Figure III-79 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Military Sciences Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

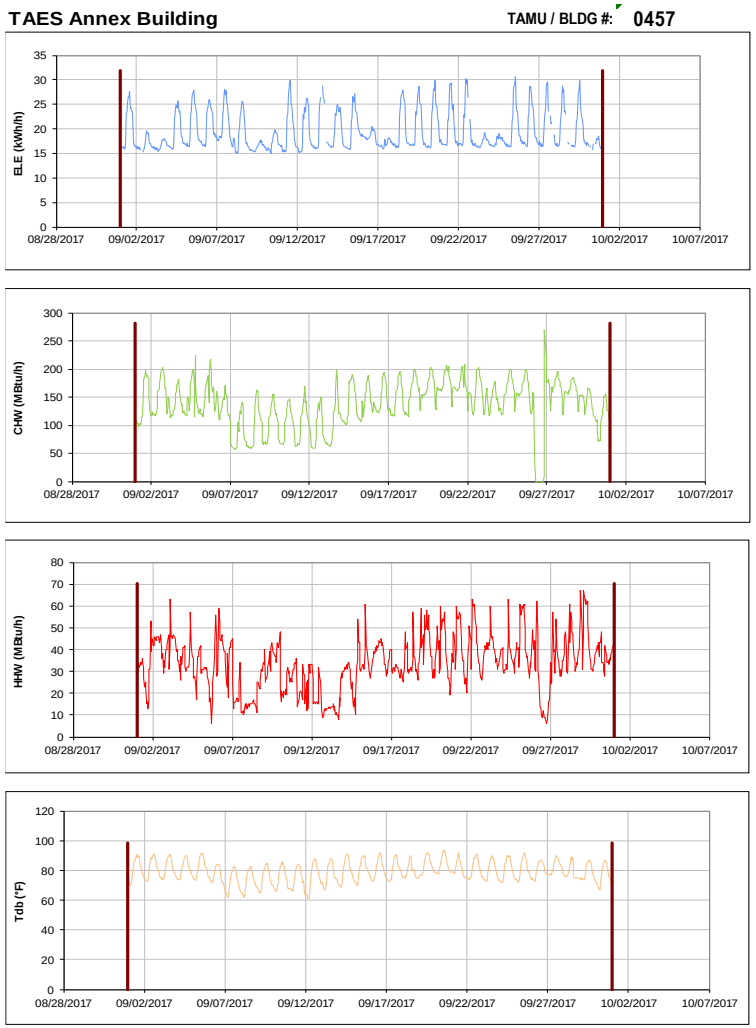


Figure III-80 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TAES Annex Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

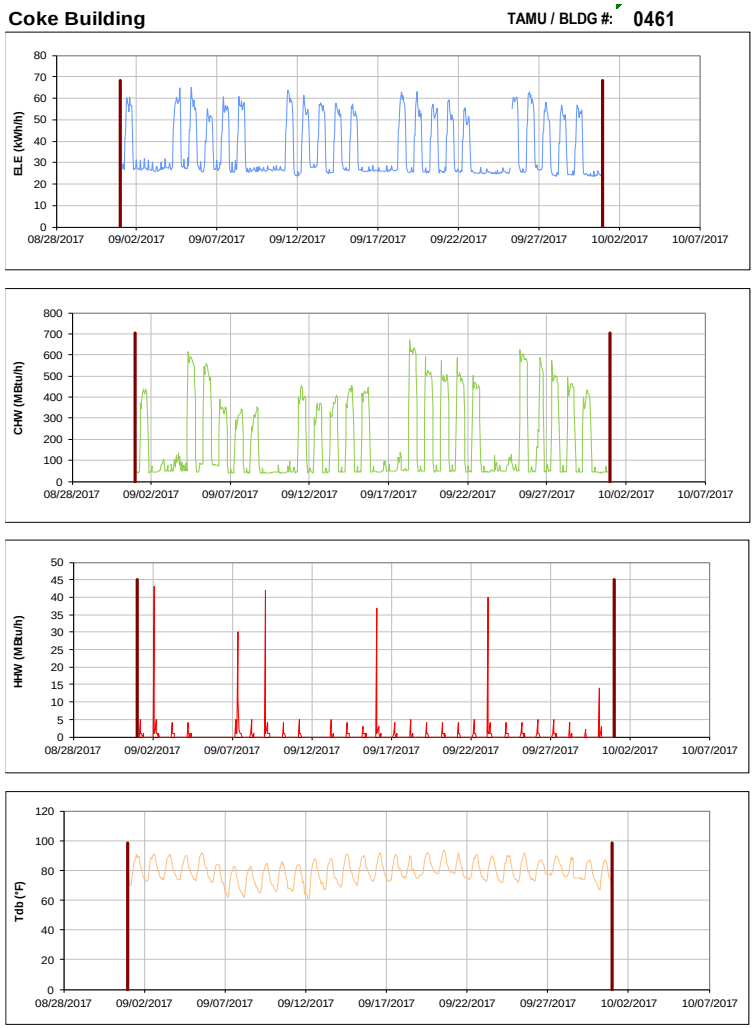


Figure III-81 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Coke Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

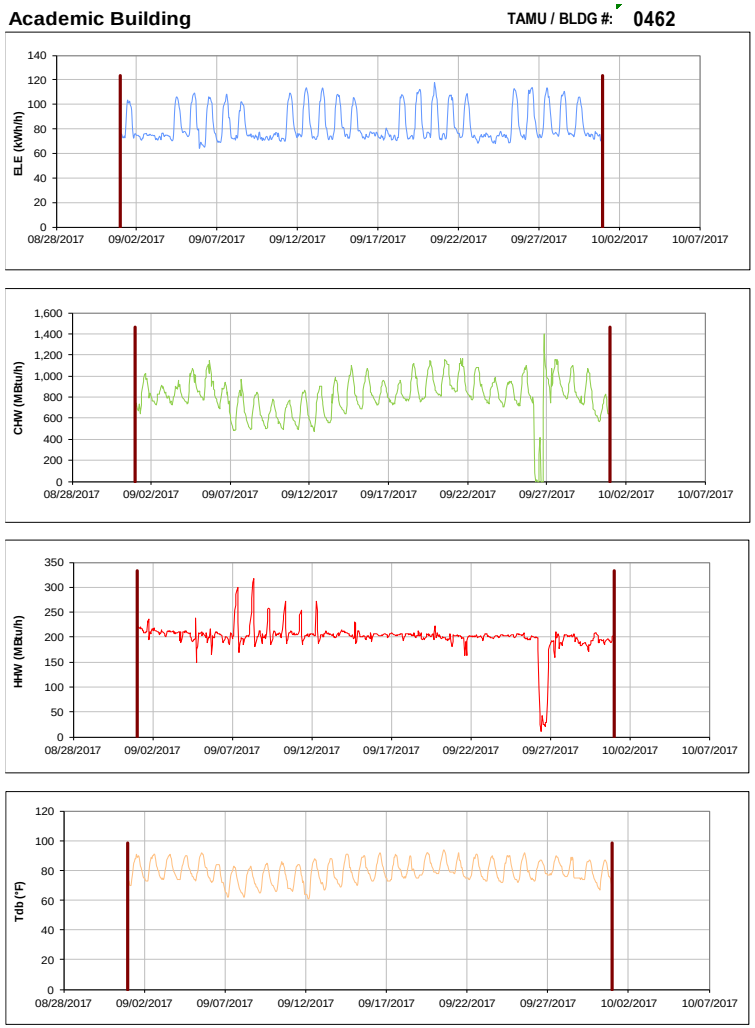


Figure III-82 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Academic Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

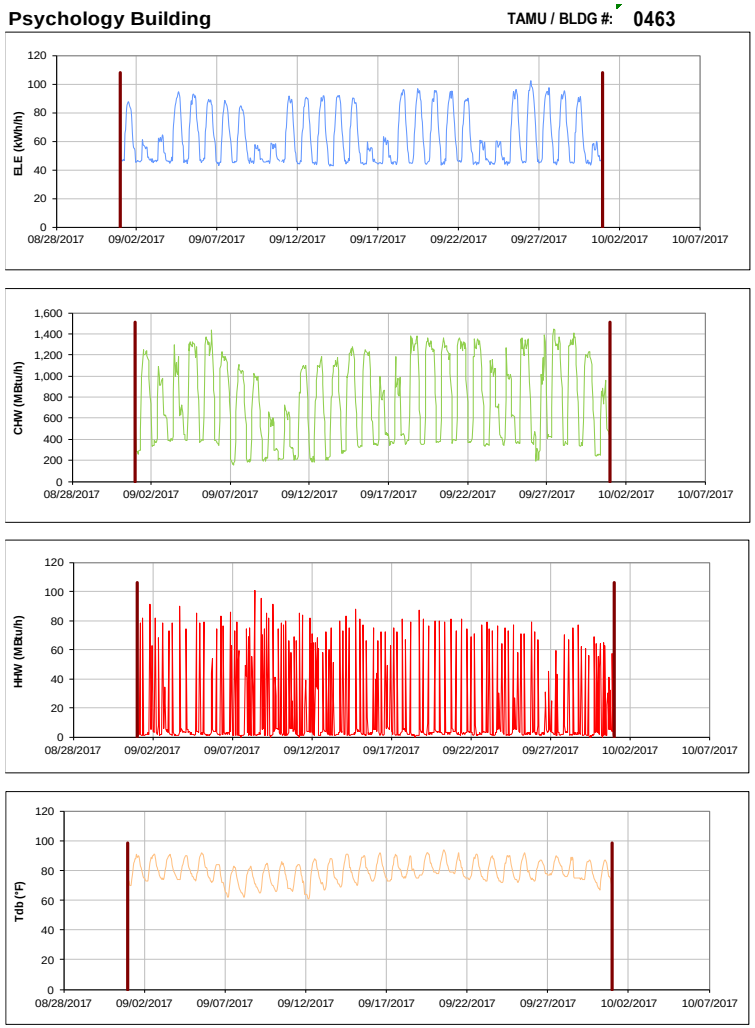


Figure III-83 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Psychology Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

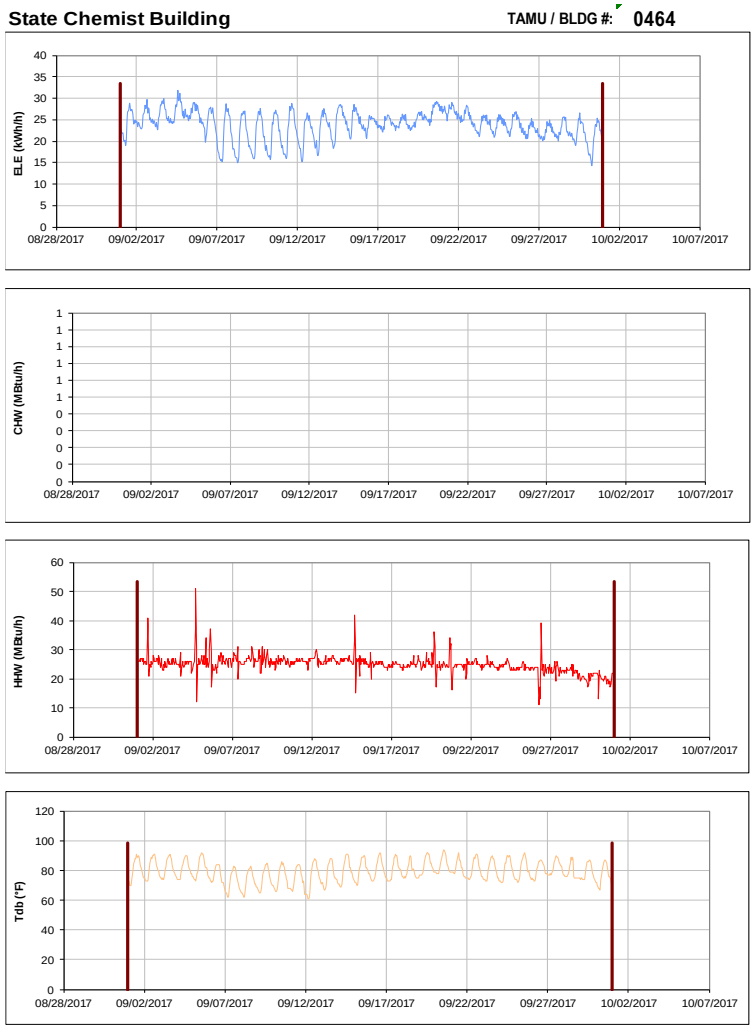


Figure III-84 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for State Chemist Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

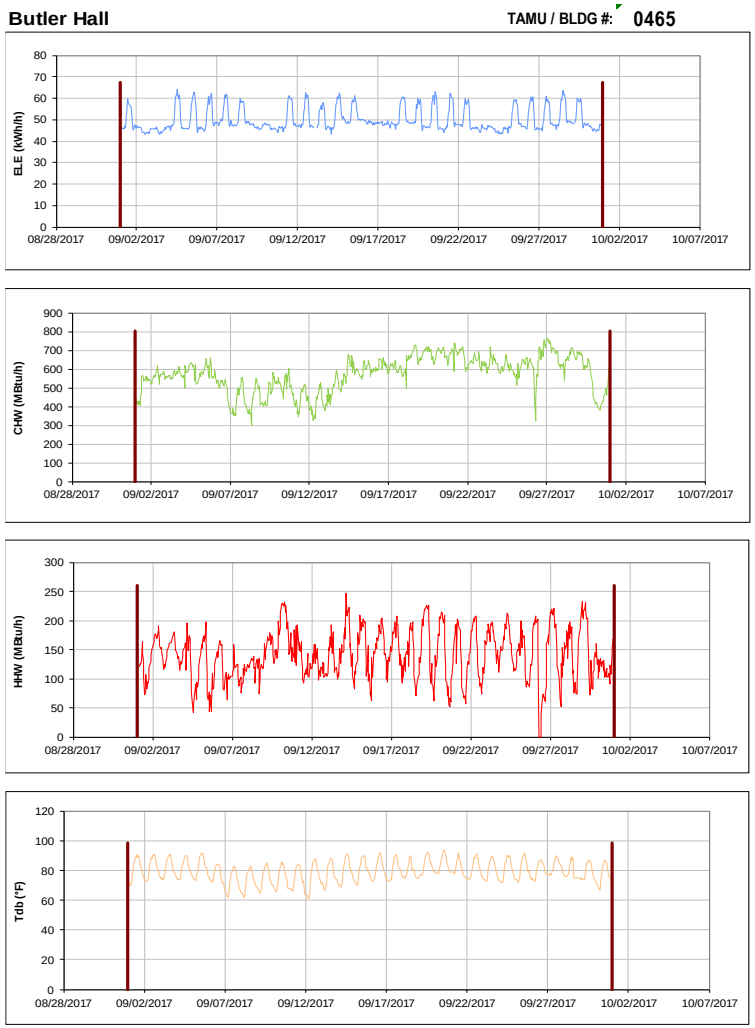


Figure III-85 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Butler Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

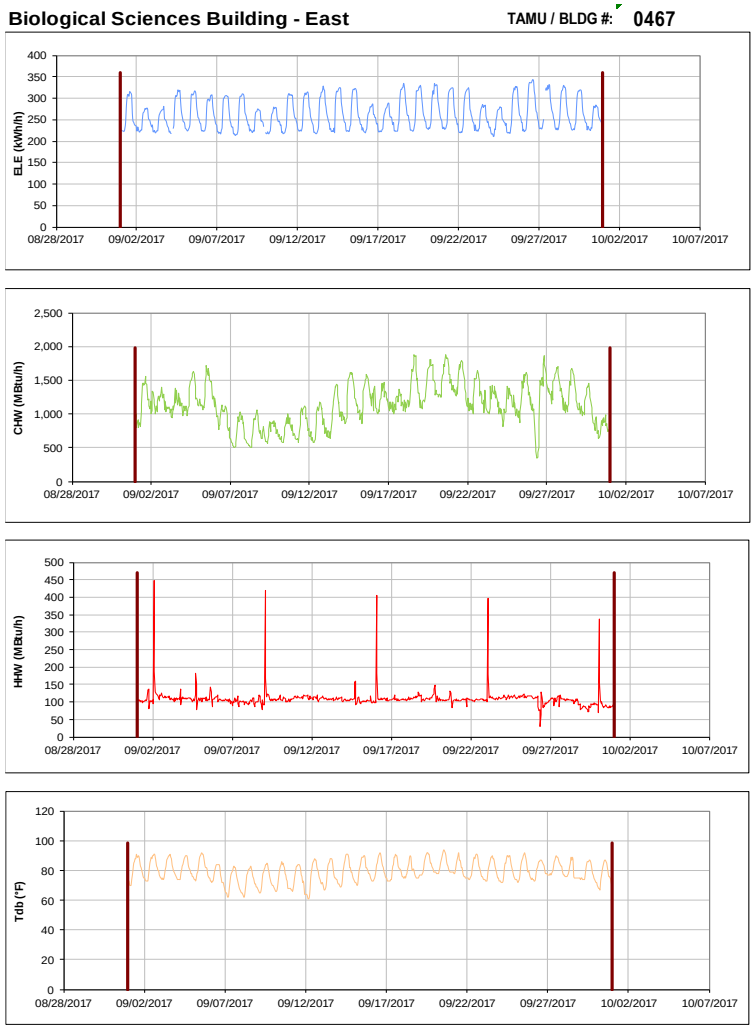


Figure III-86 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - East during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

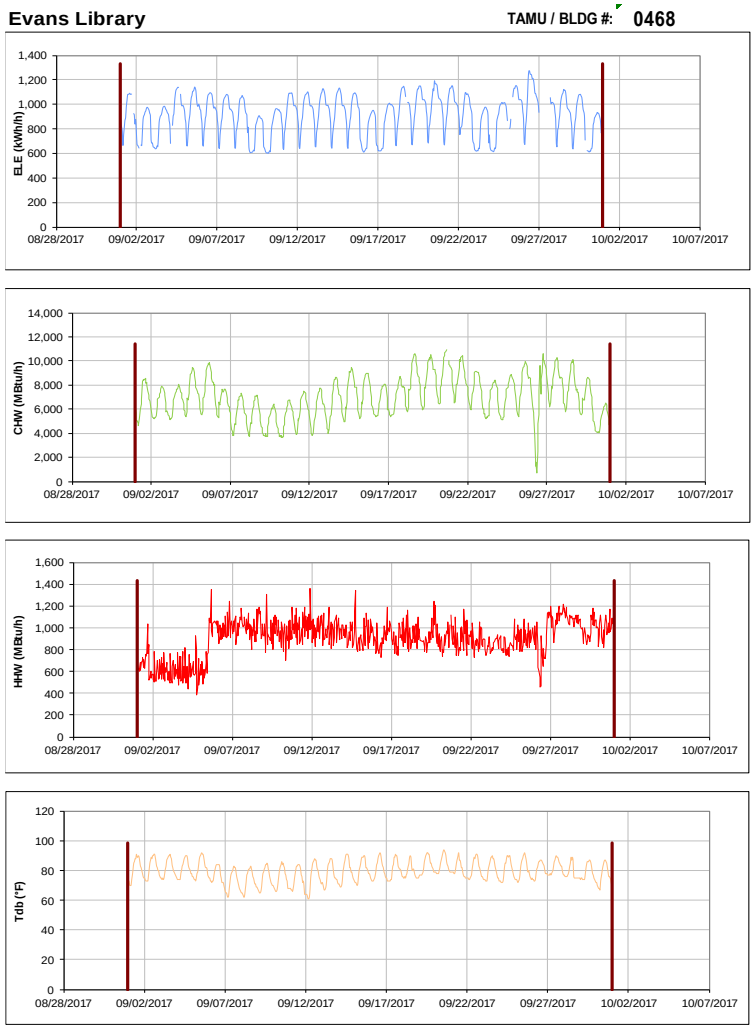


Figure III-87 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Evans Library during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

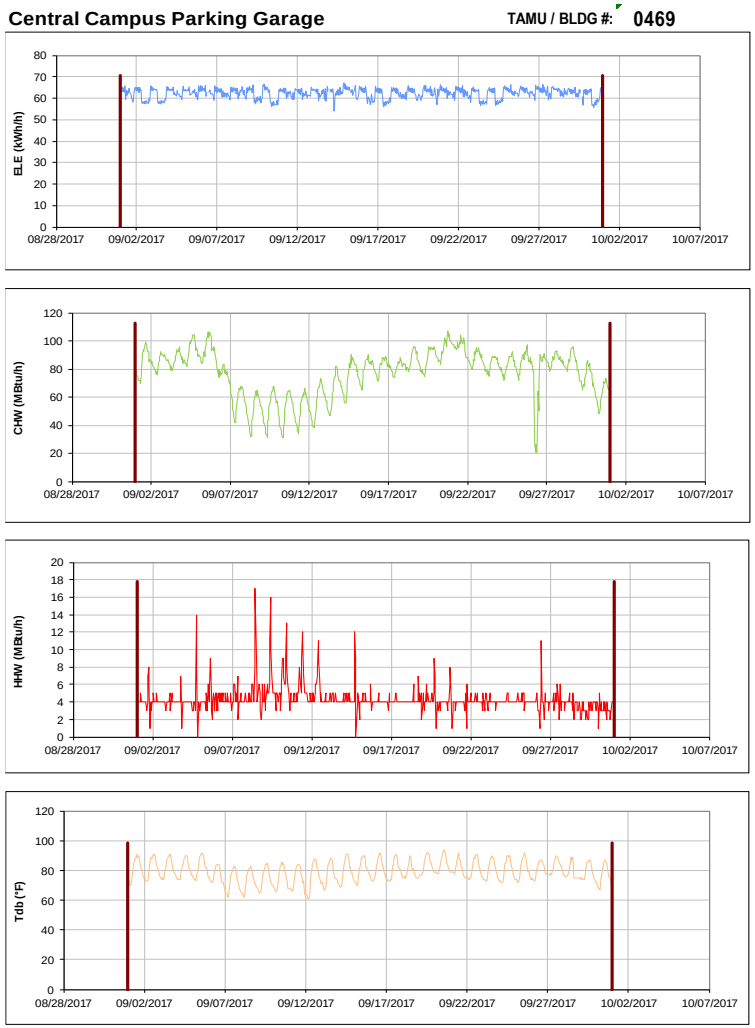


Figure III-88 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Central Campus Parking Garage during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

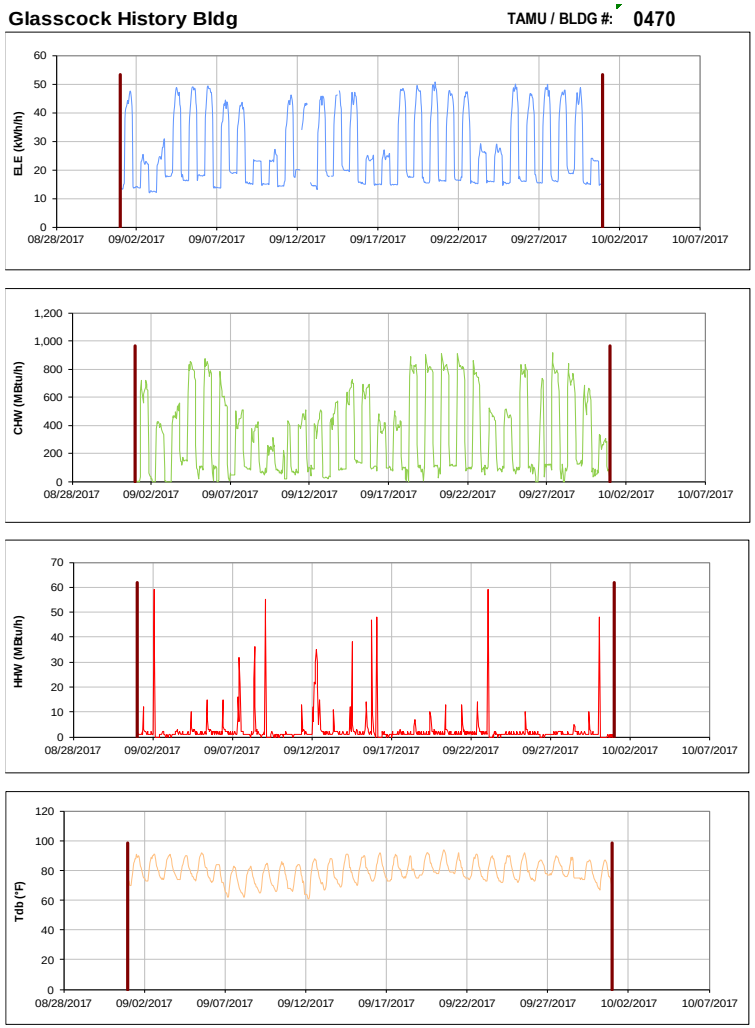


Figure III-89 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Glasscock History Bldg during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

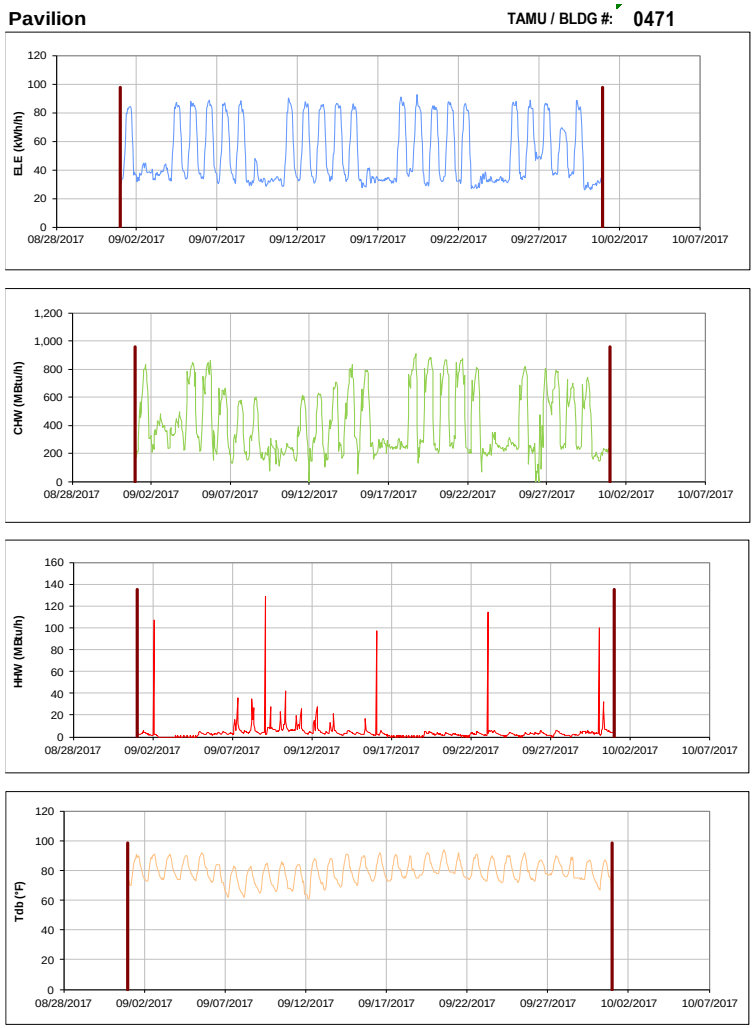


Figure III-90 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Pavilion during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

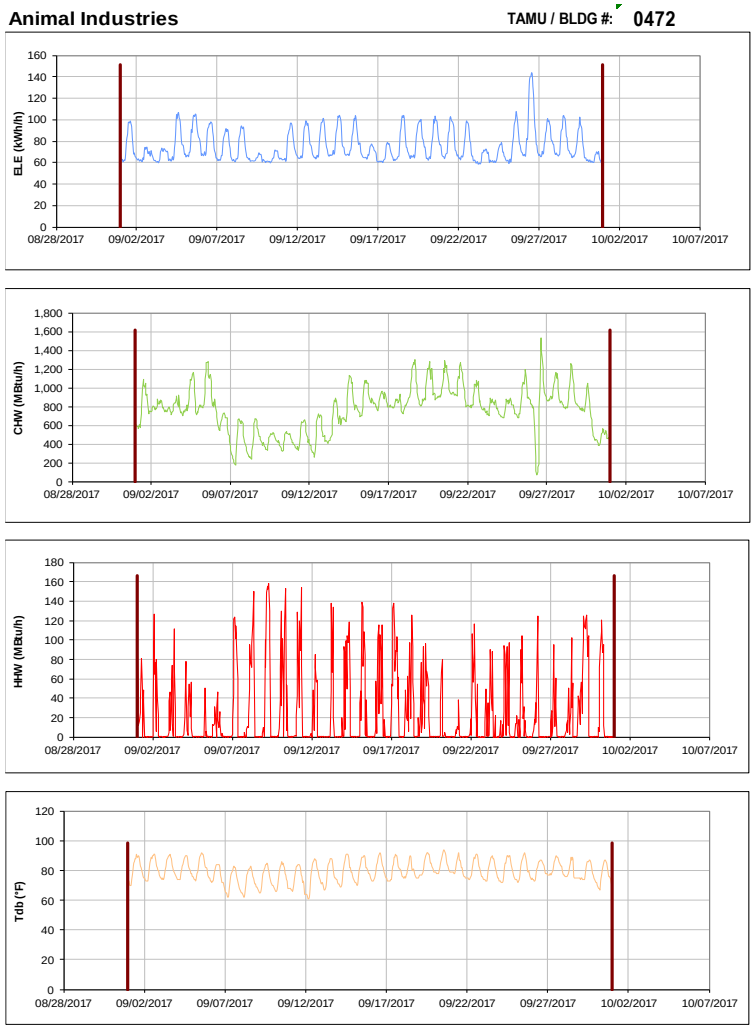


Figure III-91 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Animal Industries during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

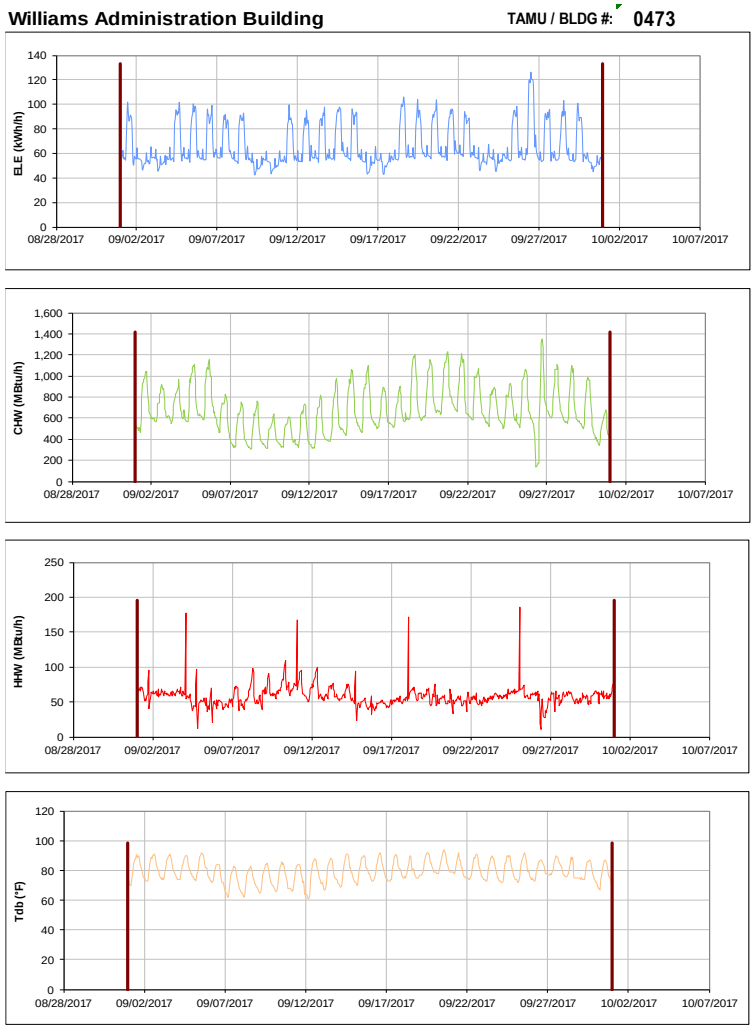


Figure III-92 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Williams Administration Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

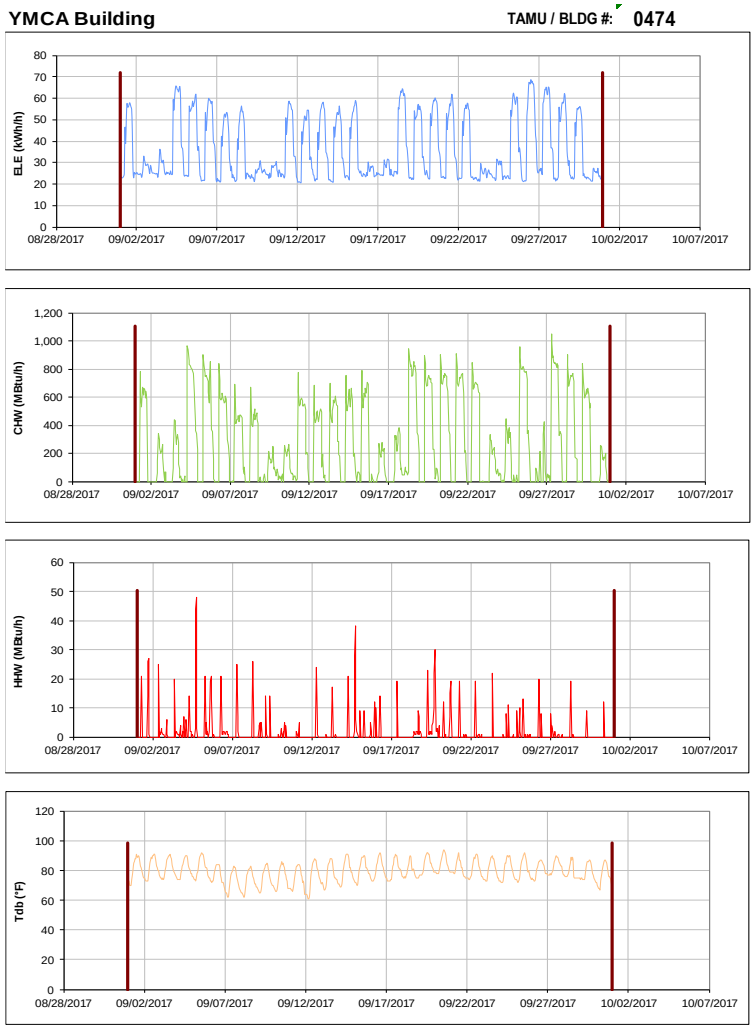


Figure III-93 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for YMCA Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

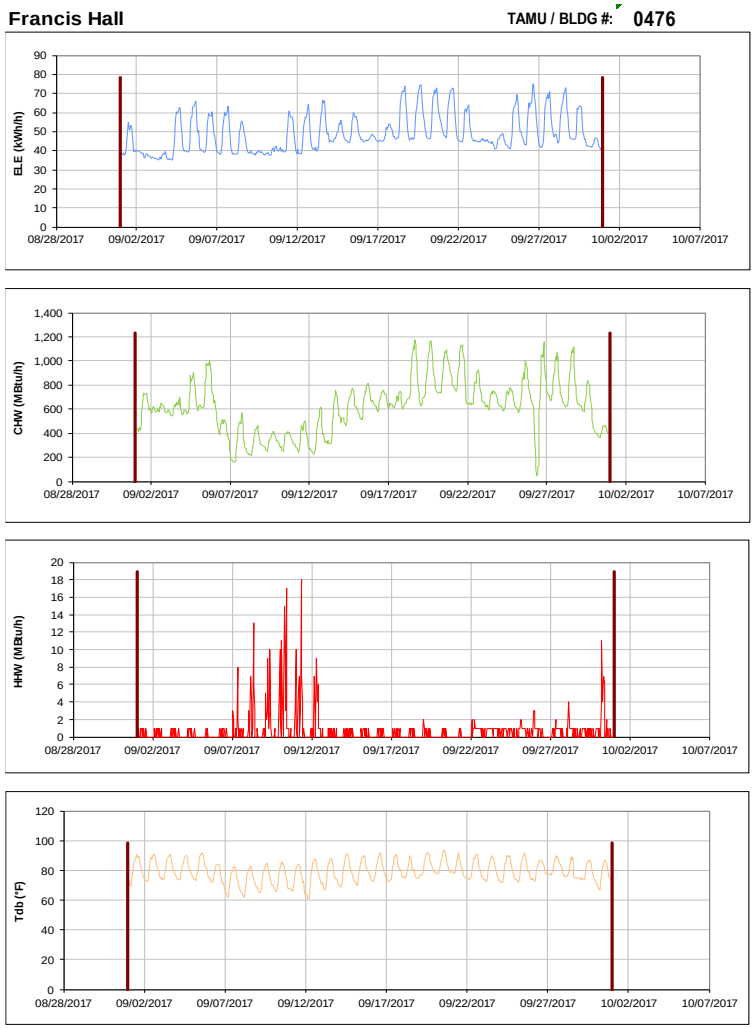


Figure III-94 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Francis Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

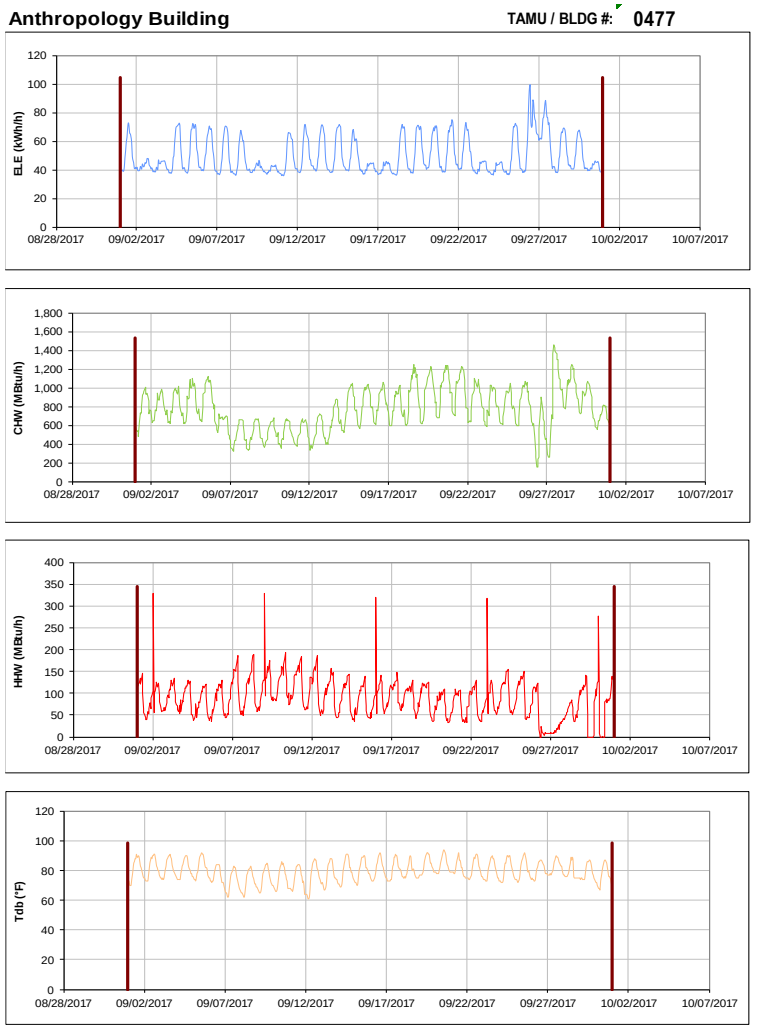


Figure III-95 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Anthropology Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

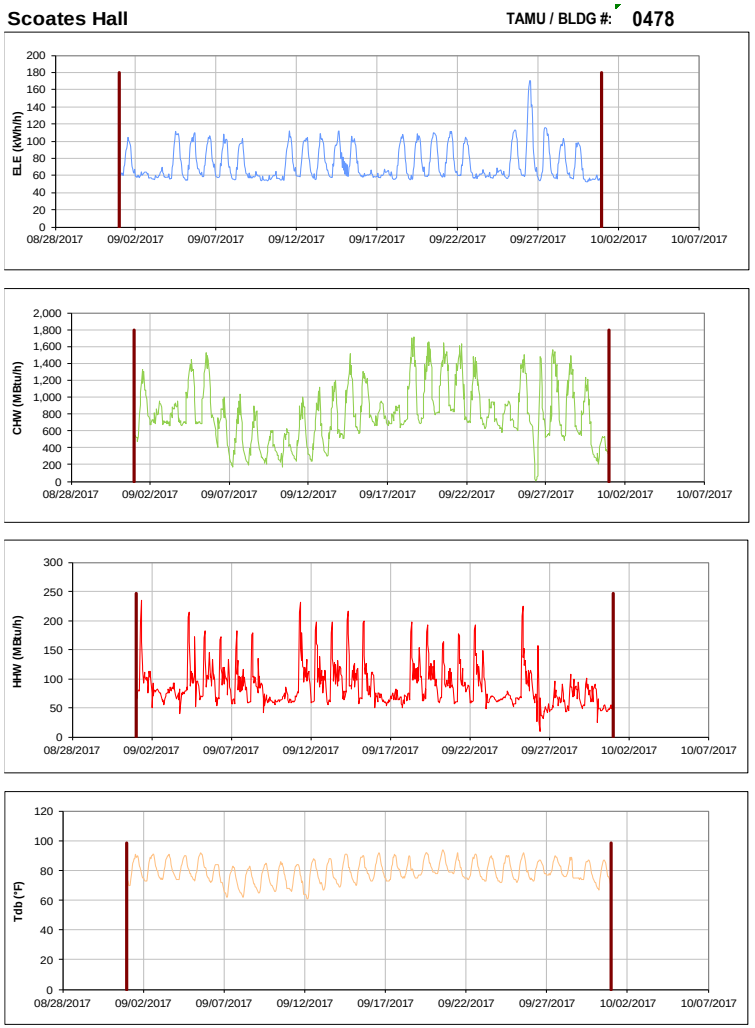


Figure III-96 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Scoates Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

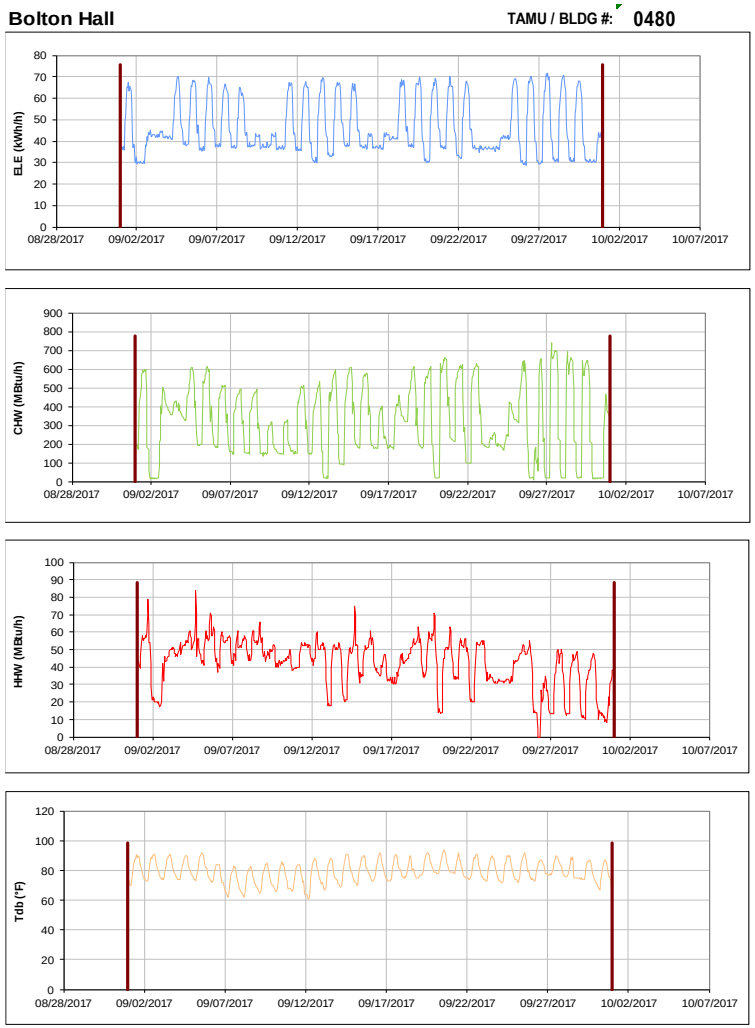


Figure III-97 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bolton Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

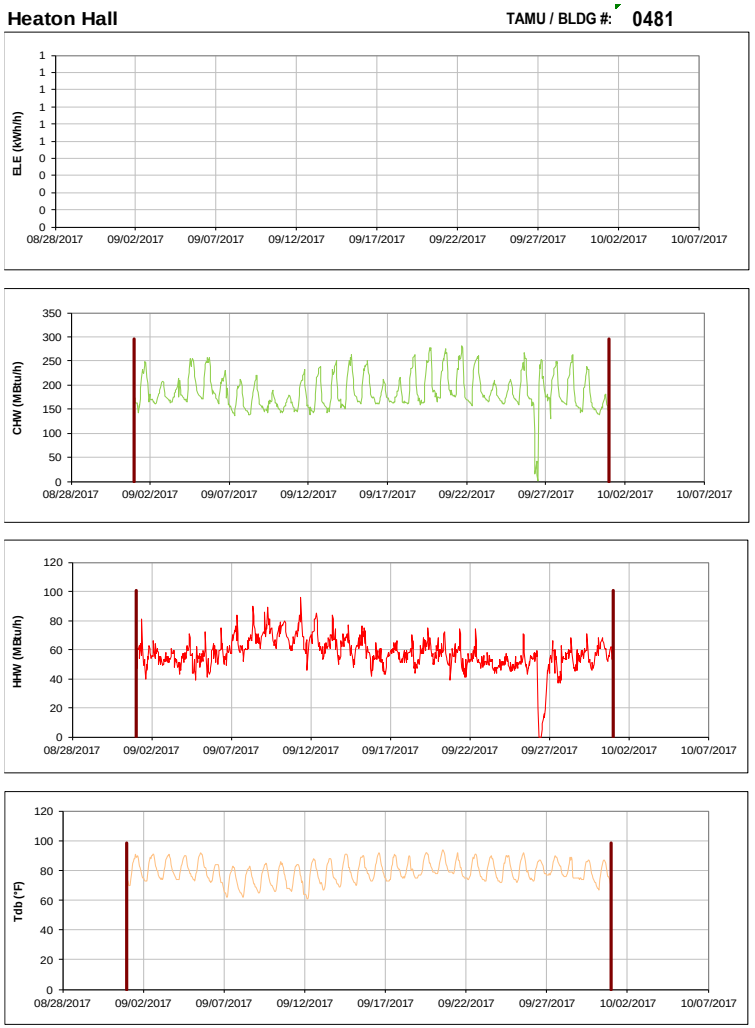


Figure III-98 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heaton Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

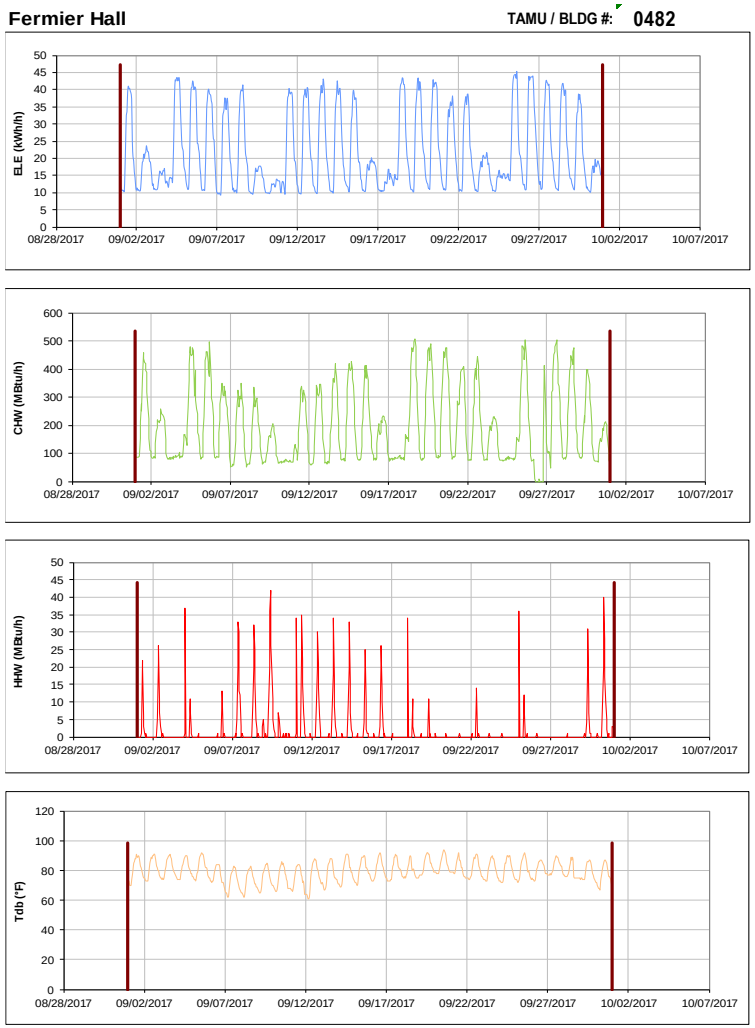


Figure III-99 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fermier Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

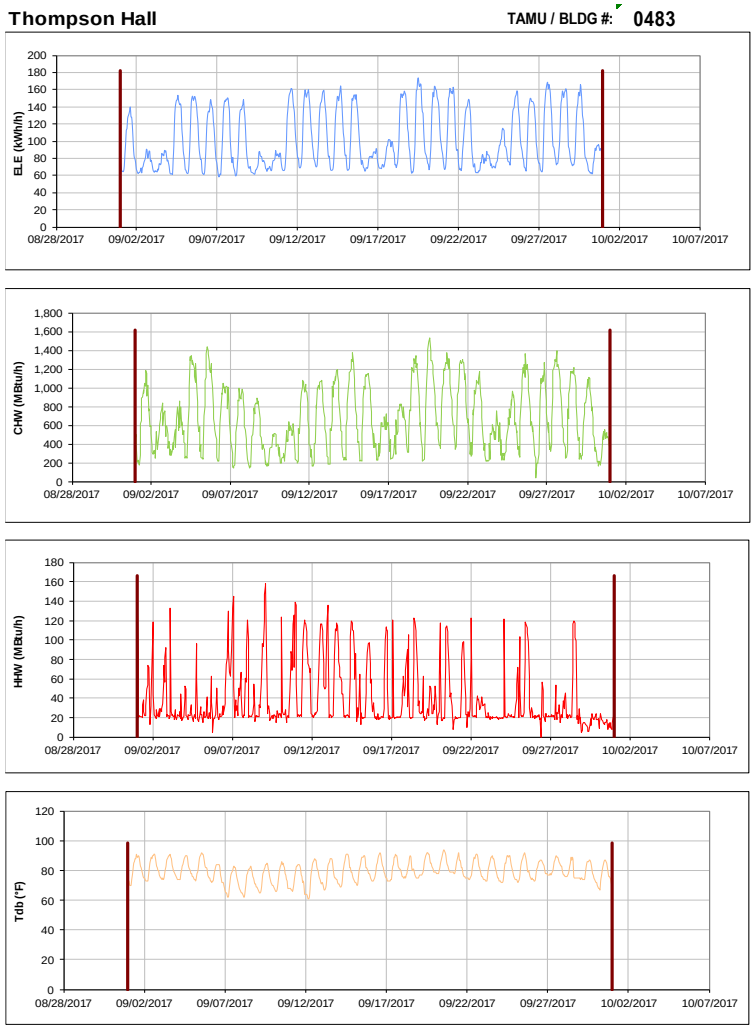


Figure III-100 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Thompson Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

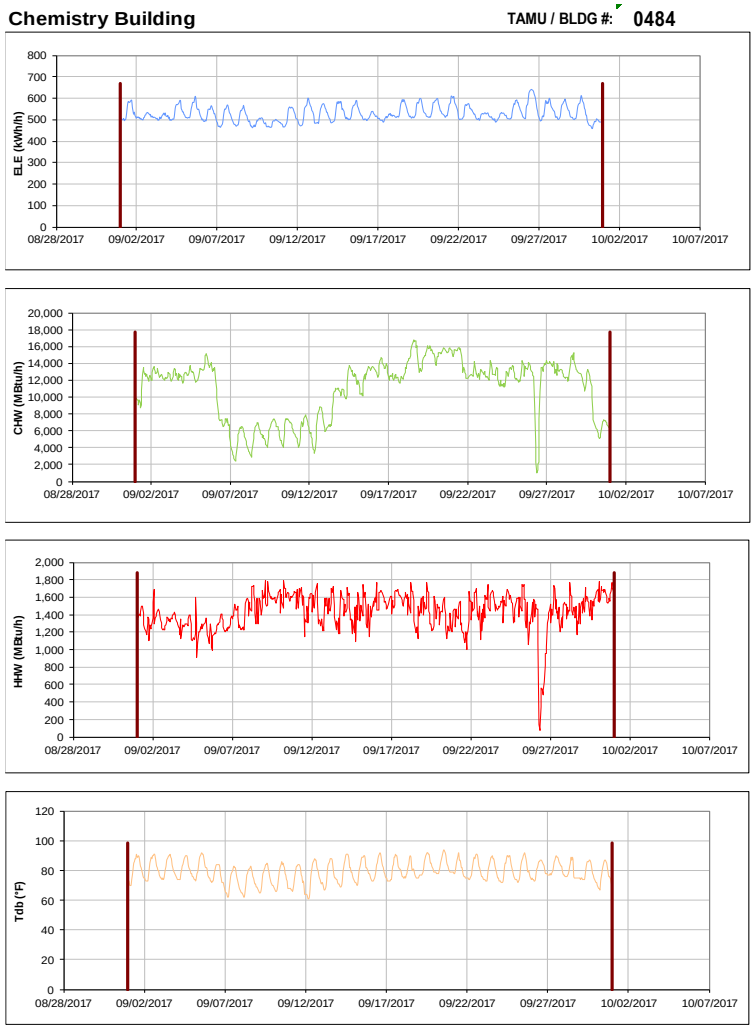


Figure III-101 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

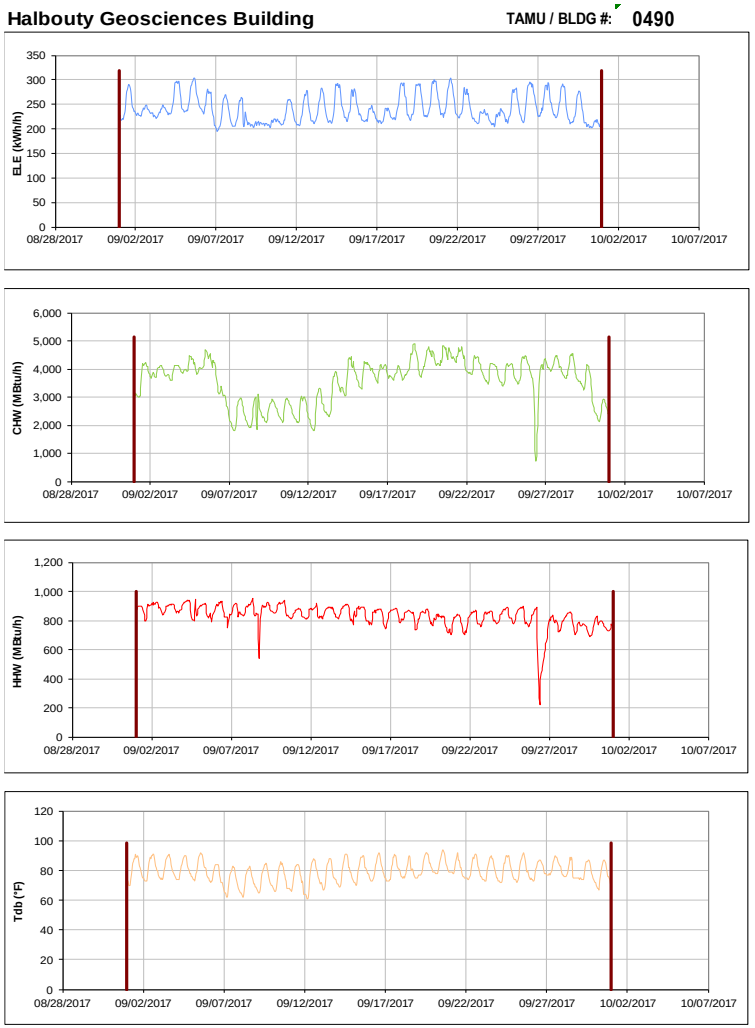


Figure III-102 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Halbouty Geosciences Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

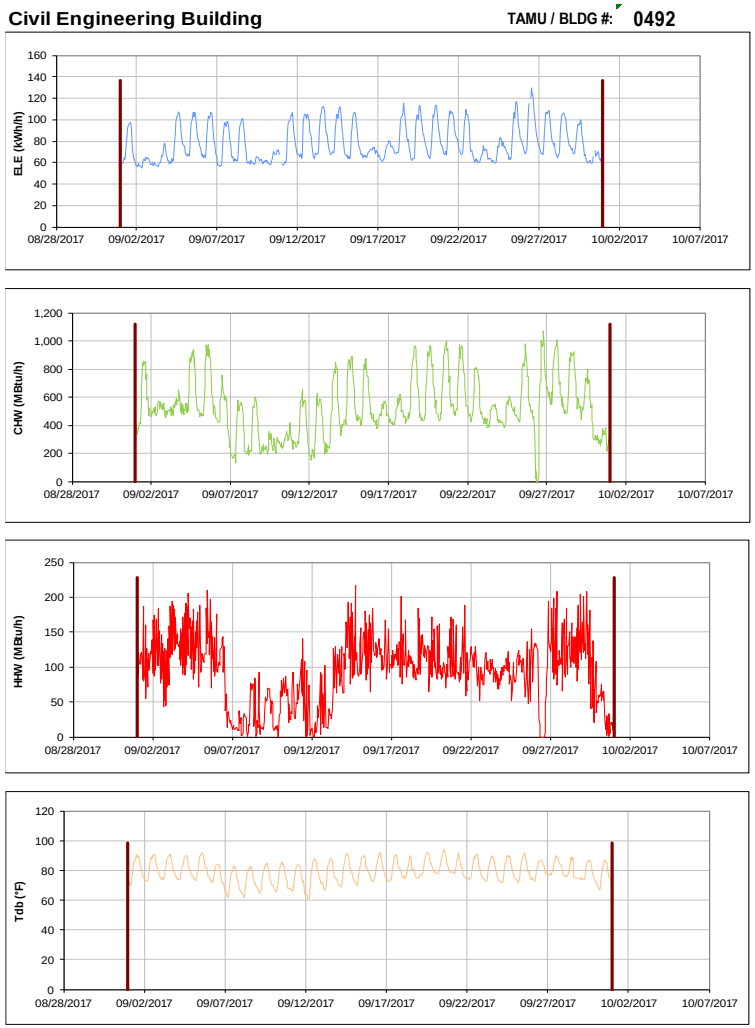


Figure III-103 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Civil Engineering Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

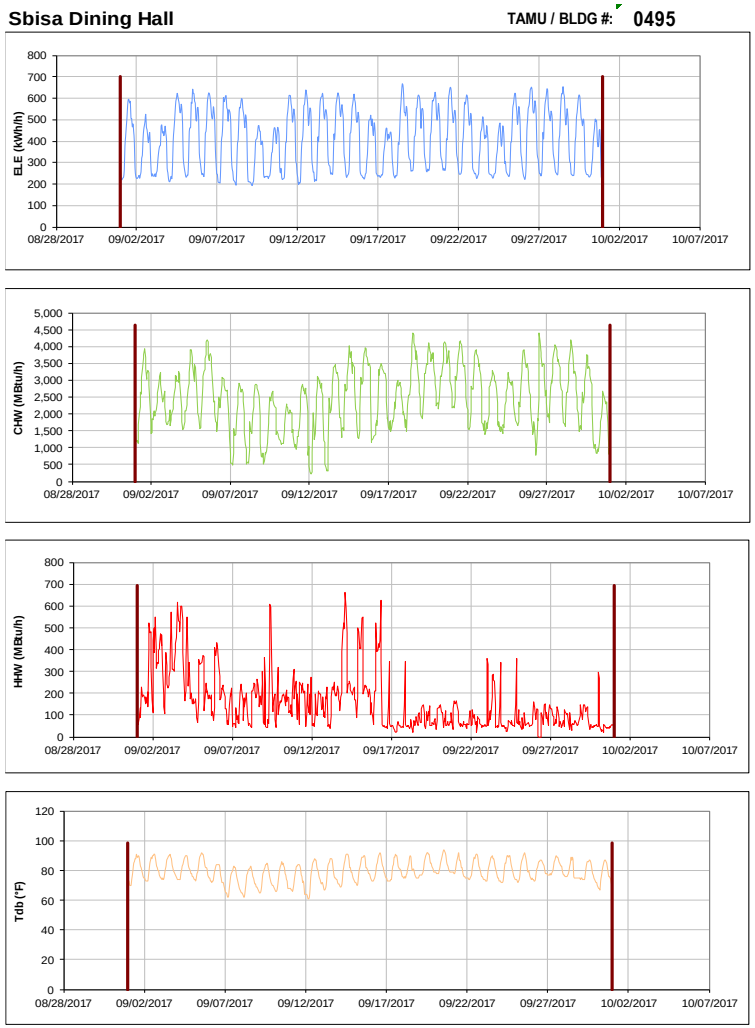


Figure III-104 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sbisa Dining Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

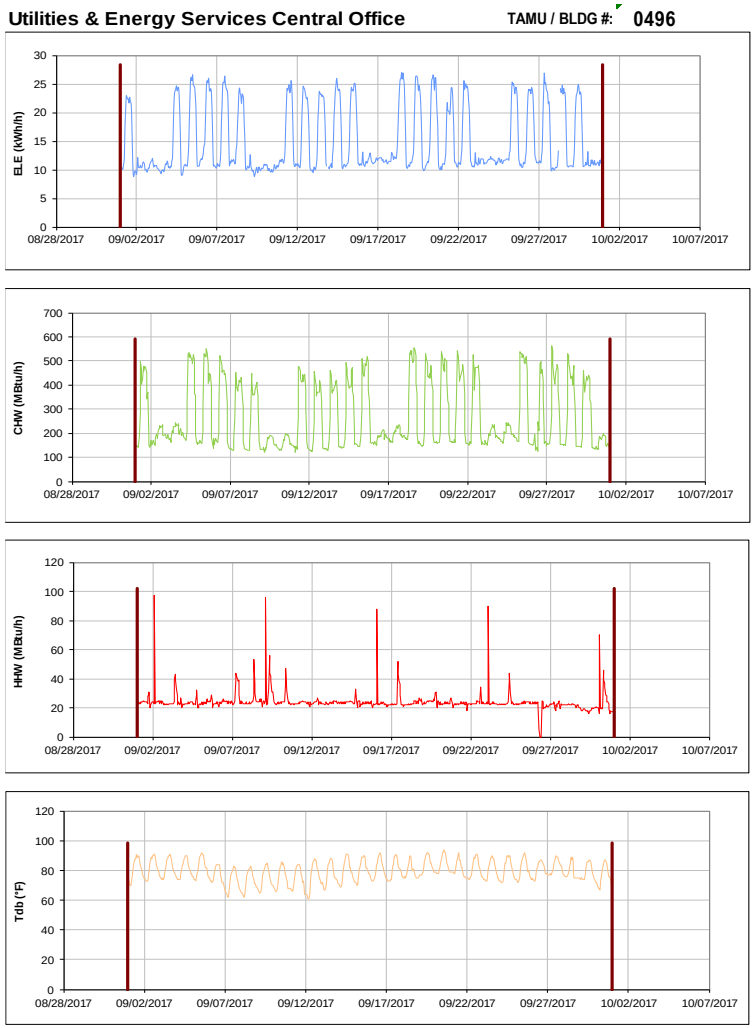


Figure III-105 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Central Office during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

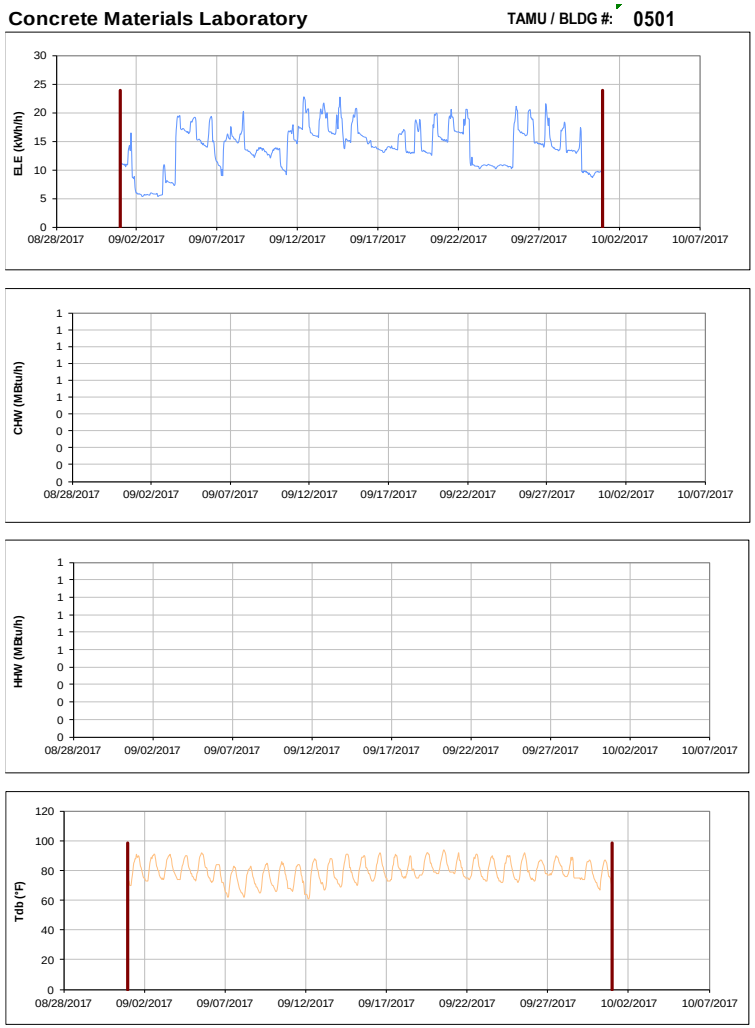


Figure III-106 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Concrete Materials Laboratory during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

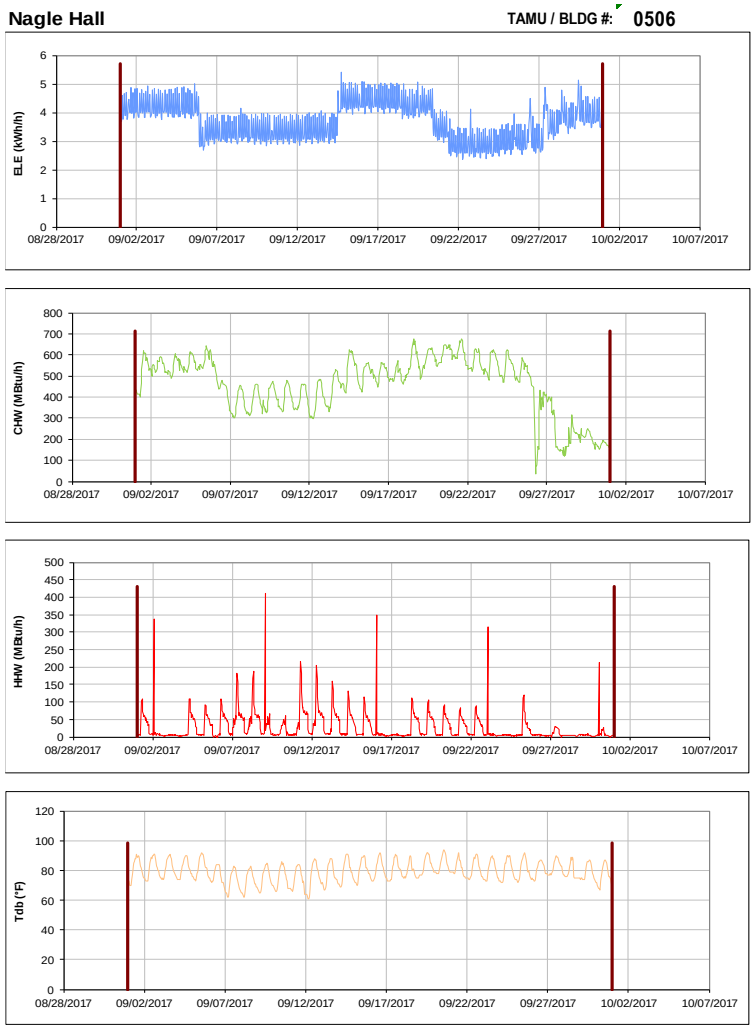


Figure III-107 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nagle Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

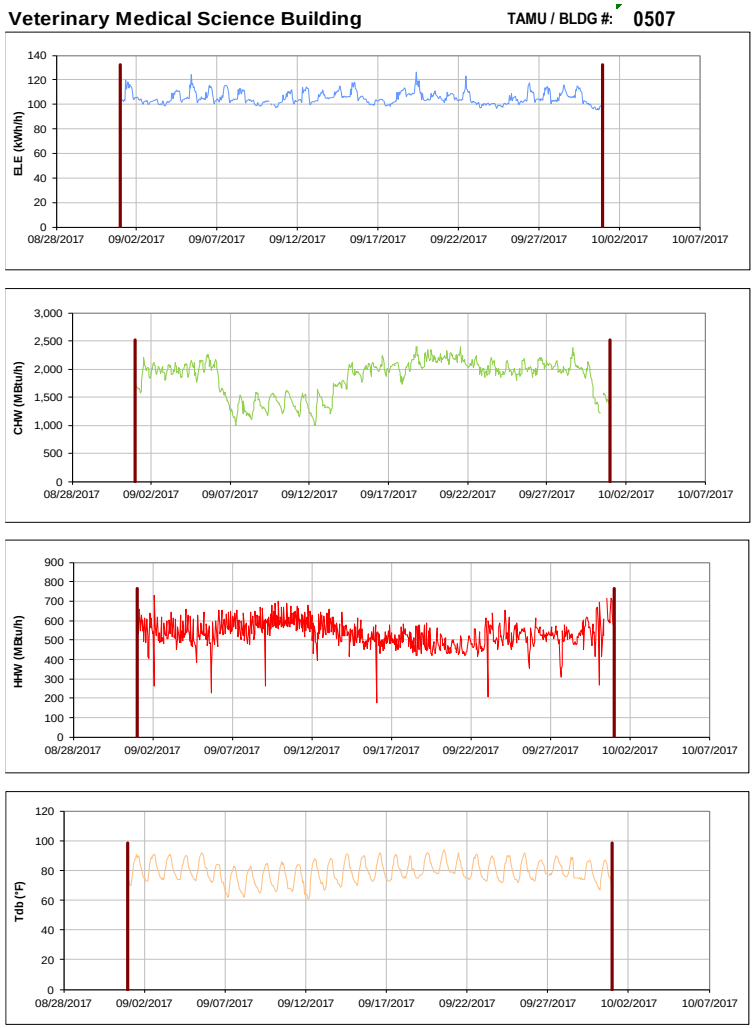


Figure III-108 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medical Science Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

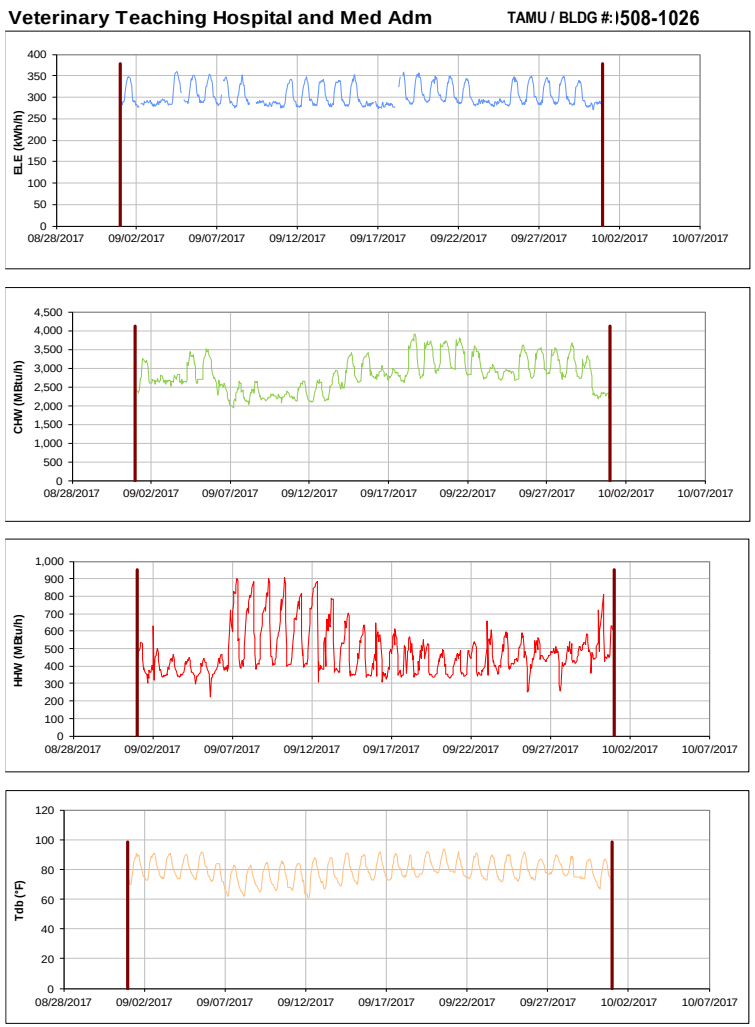


Figure III-109 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Teaching Hospital and Med Adm during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

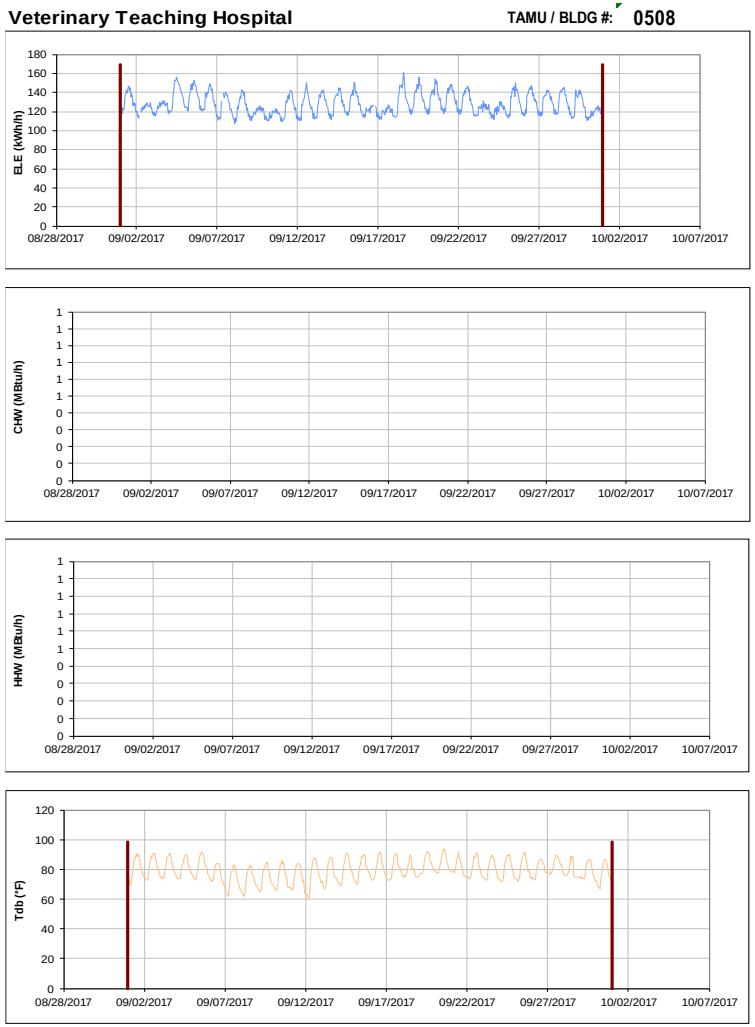


Figure III-110 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Teaching Hospital during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

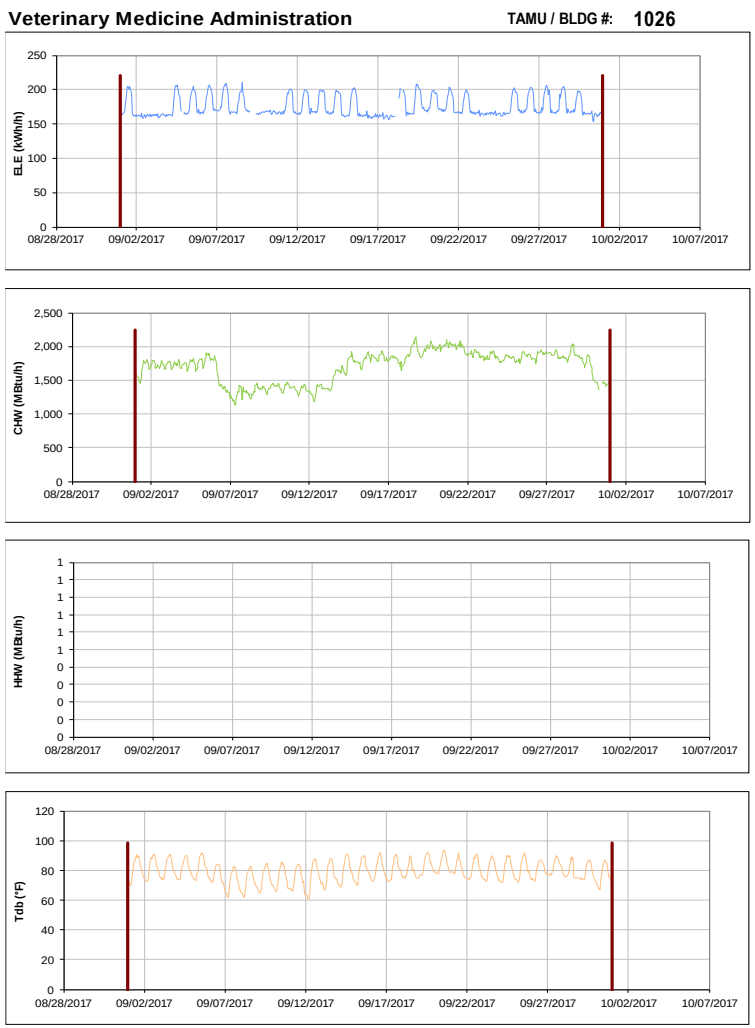


Figure III-111 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Administration during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

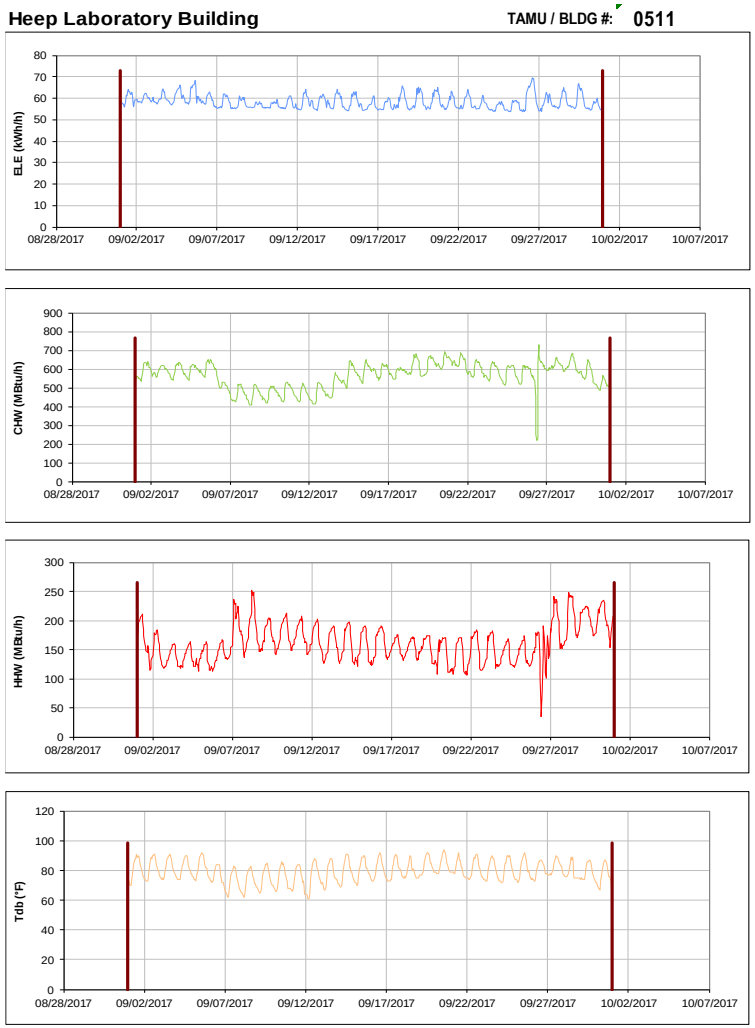


Figure III-112 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Laboratory Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

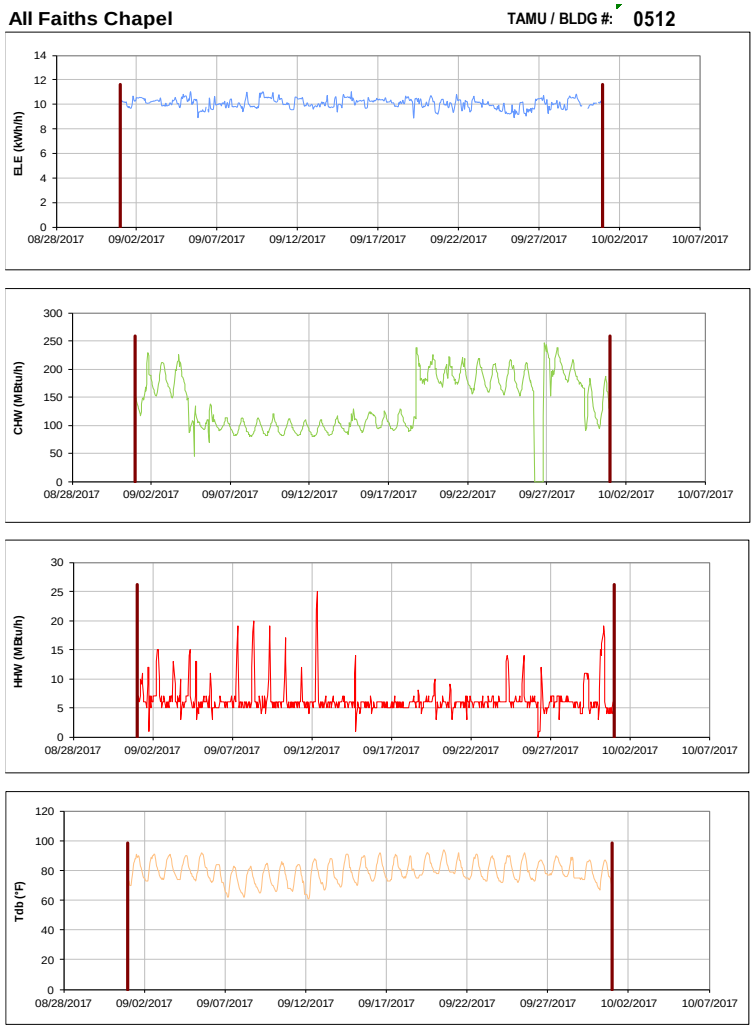


Figure III-113 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for All Faiths Chapel during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

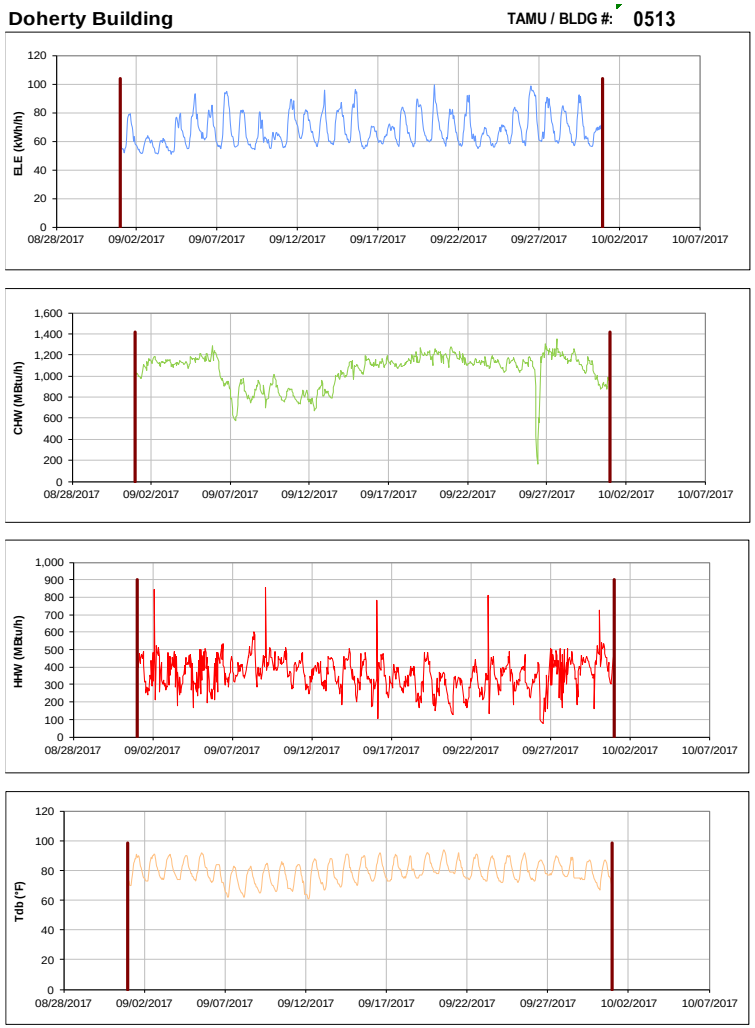


Figure III-114 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Doherty Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

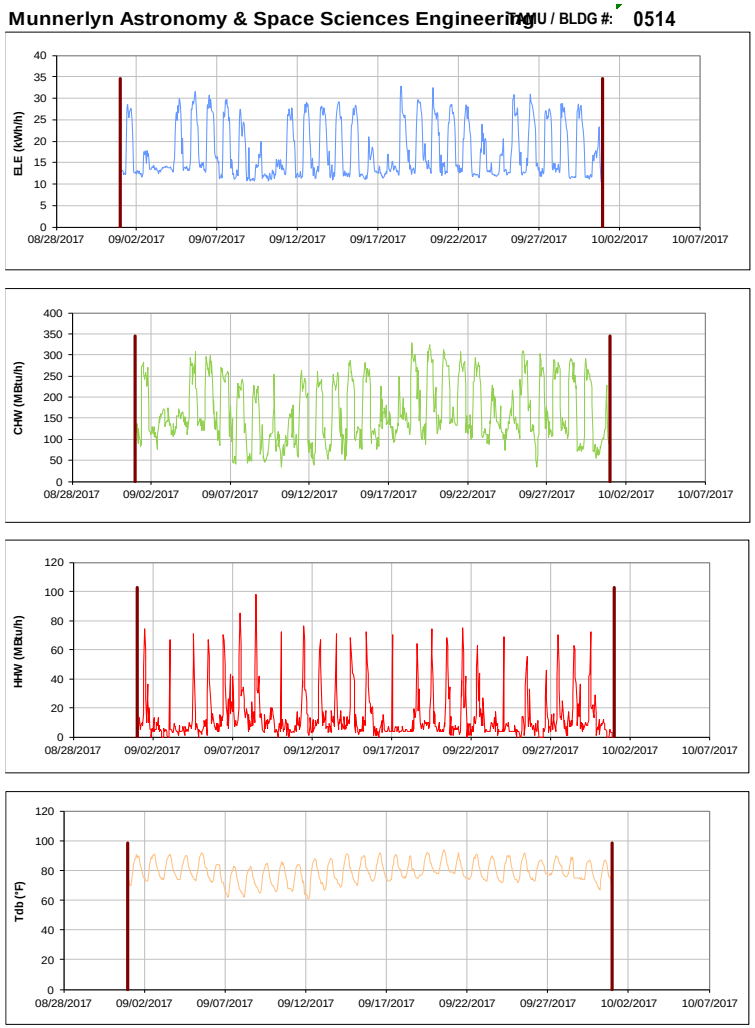


Figure III-115 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Munnerlyn Astronomy & Space Sciences Engineering during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

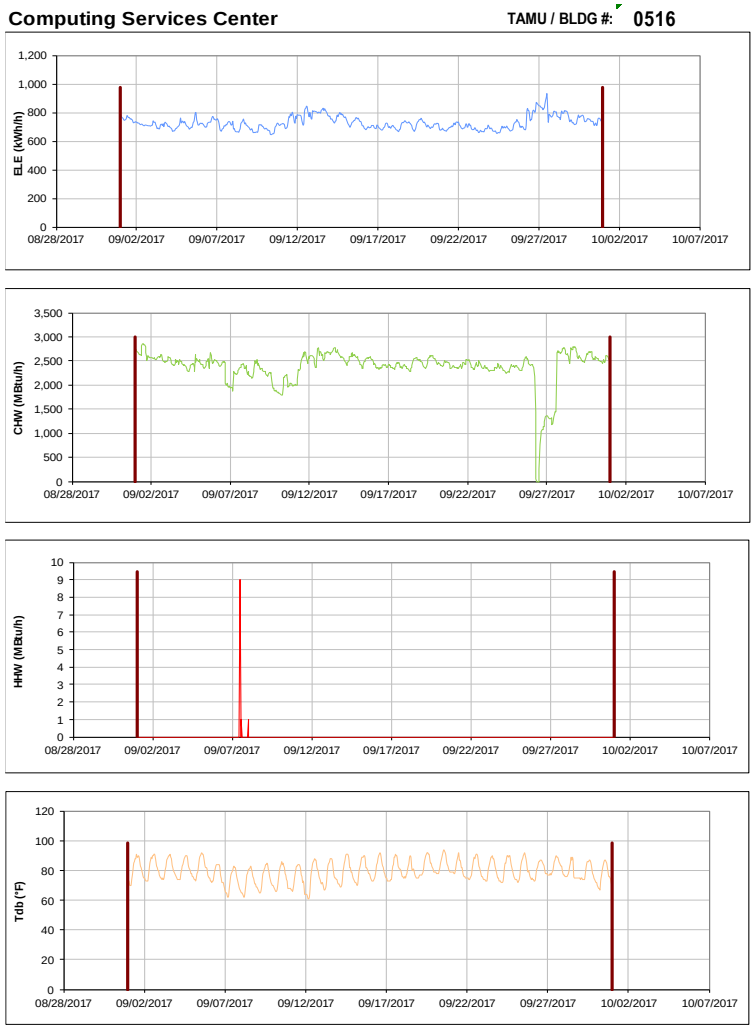


Figure III-116 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Computing Services Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

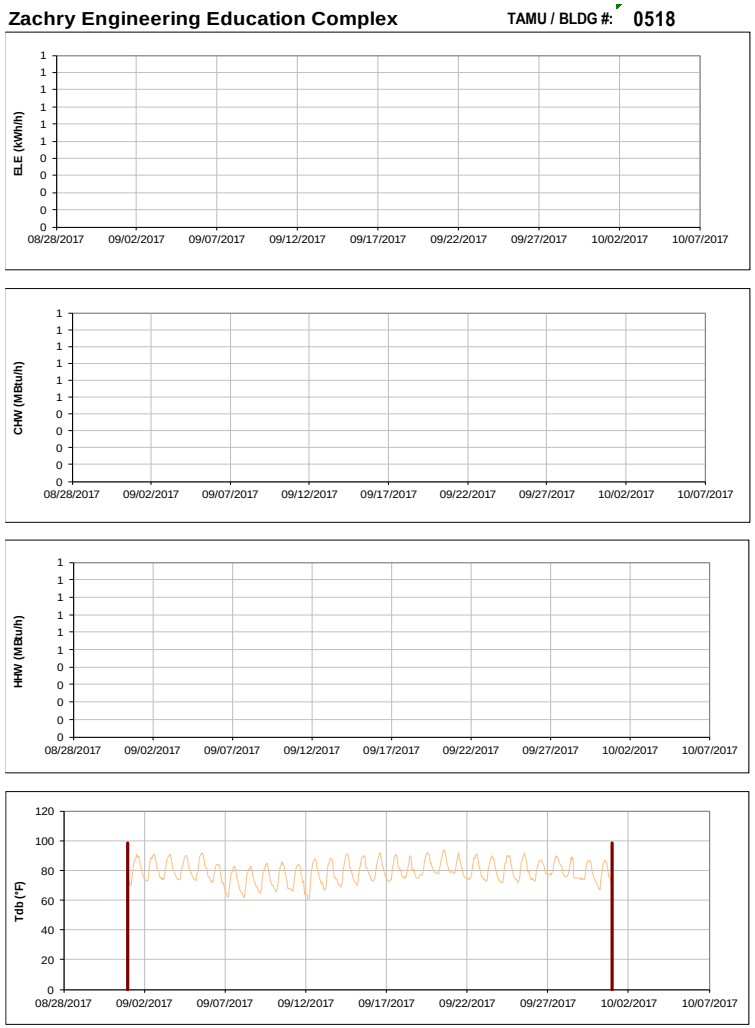


Figure III-117 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Zachry Engineering Education Complex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

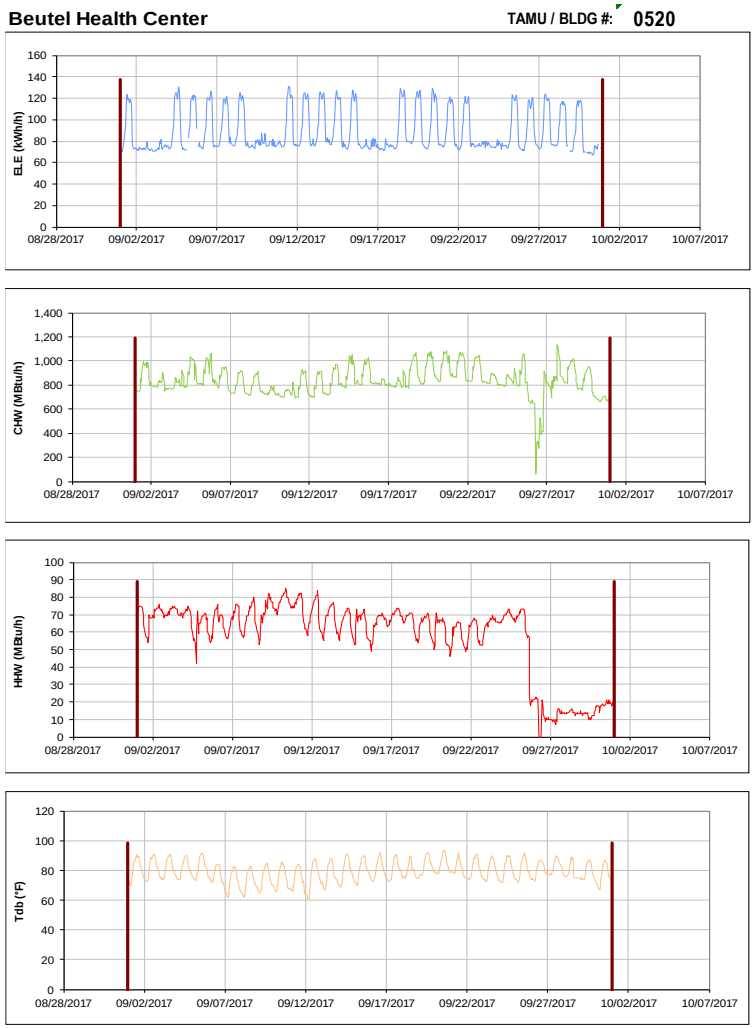


Figure III-118 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Beutel Health Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

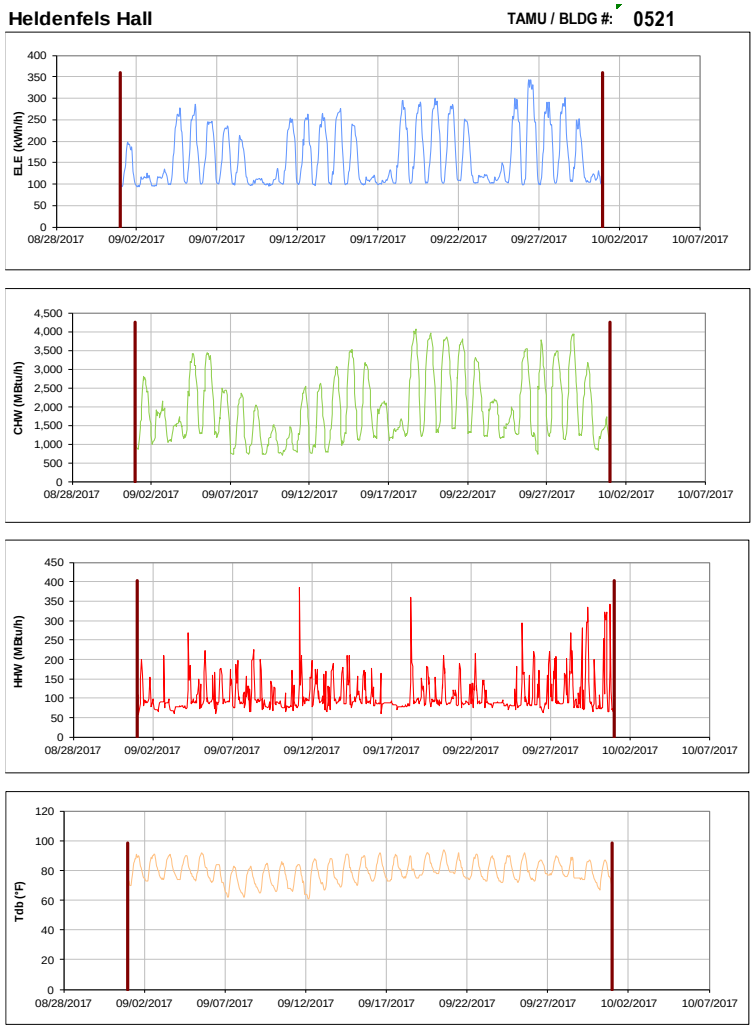


Figure III-119 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heldenfels Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

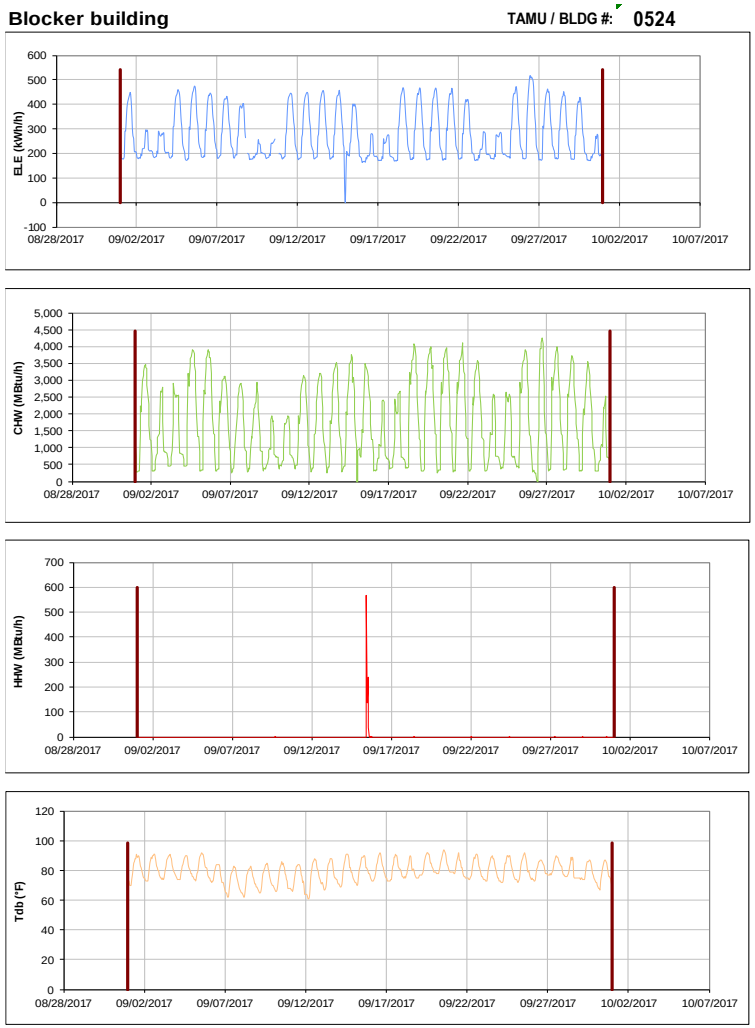


Figure III-120 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Blocker building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

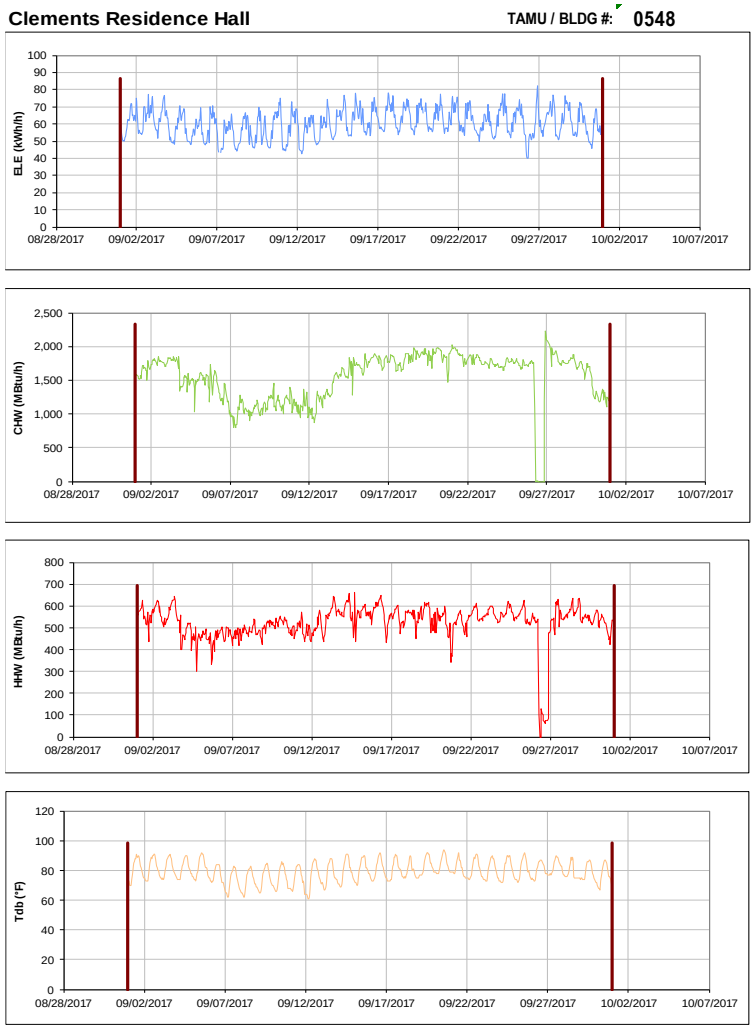


Figure III-121 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Clements Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

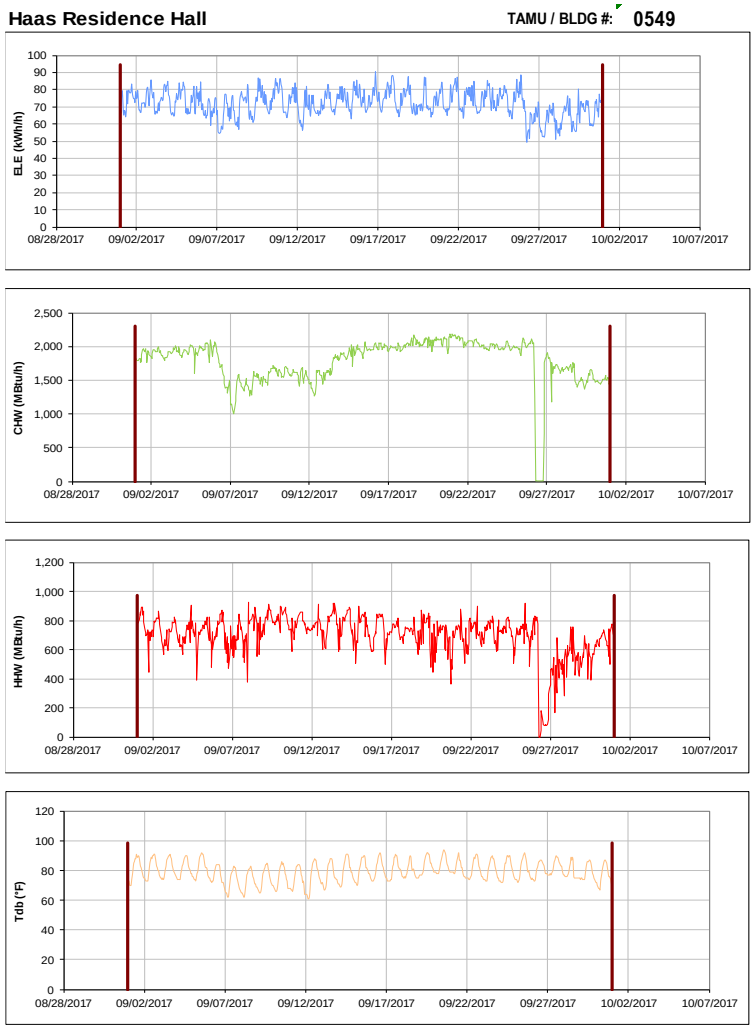


Figure III-122 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Haas Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

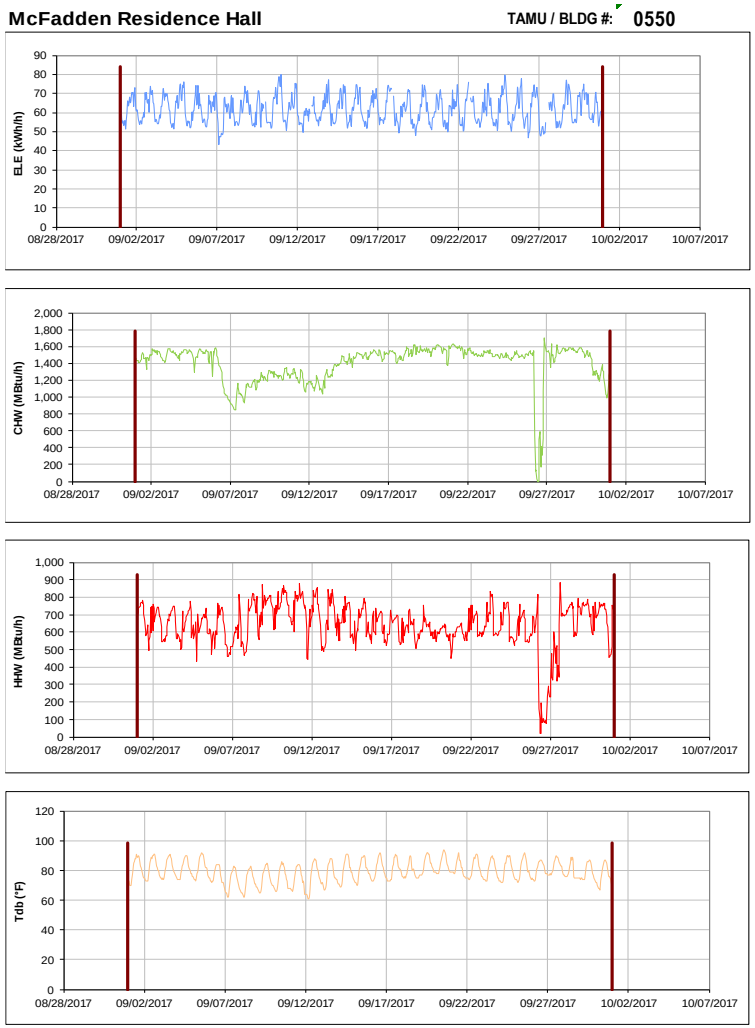


Figure III-123 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McFadden Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

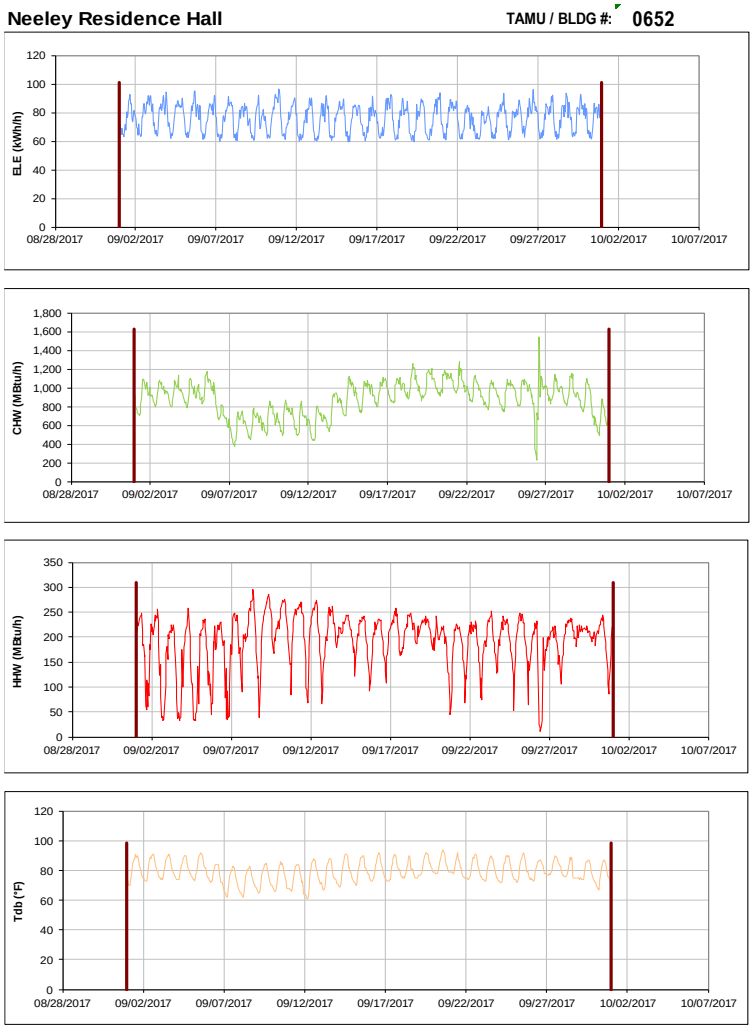


Figure III-124 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Neeley Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

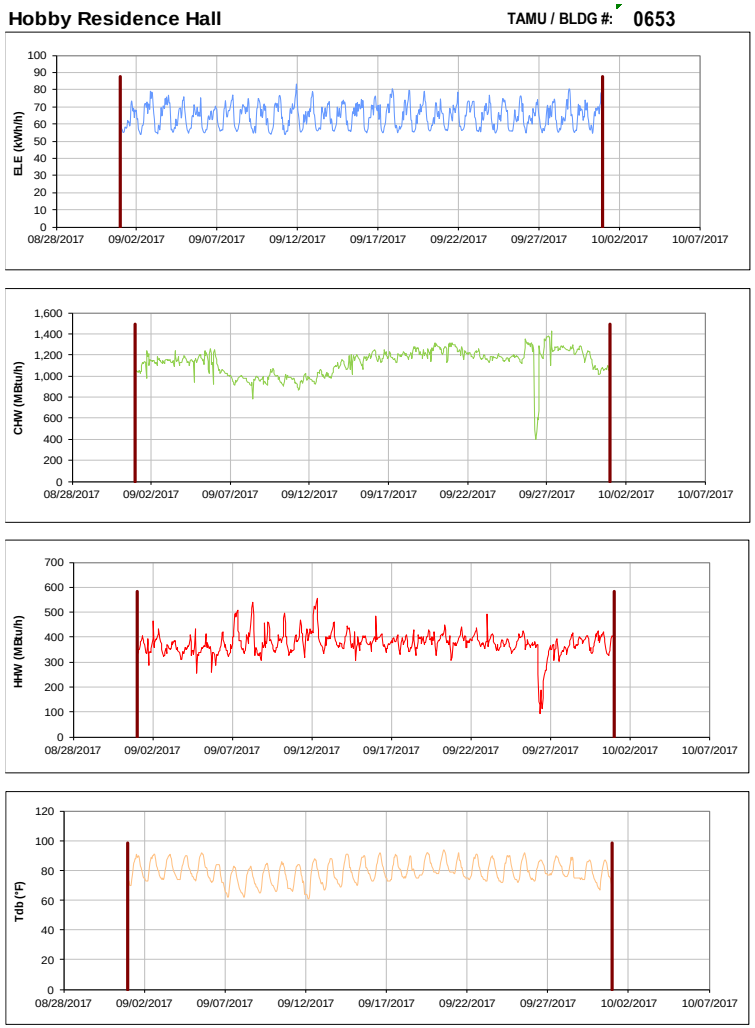


Figure III-125 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hobby Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

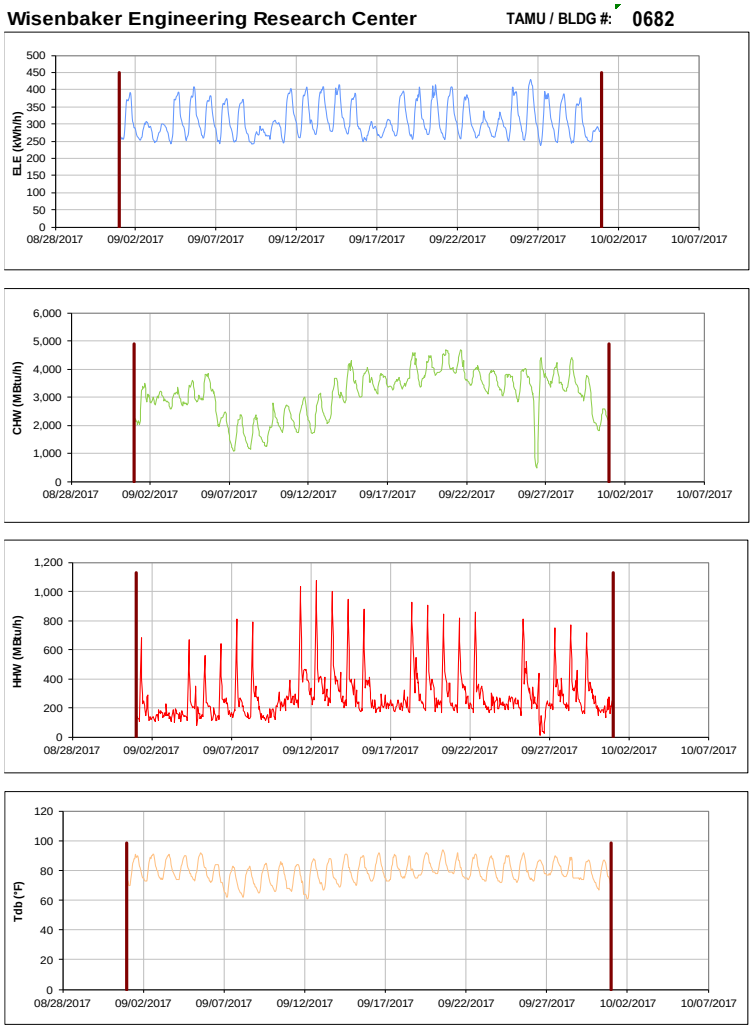


Figure III-126 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wisenbaker Engineering Research Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

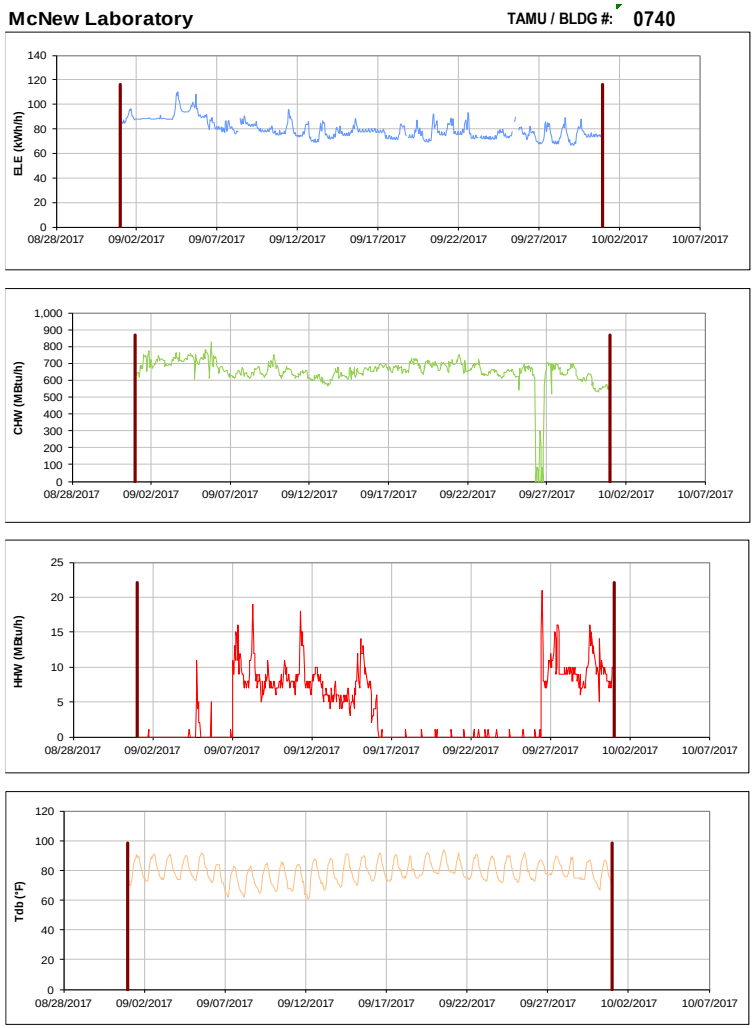


Figure III-127 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McNew Laboratory during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

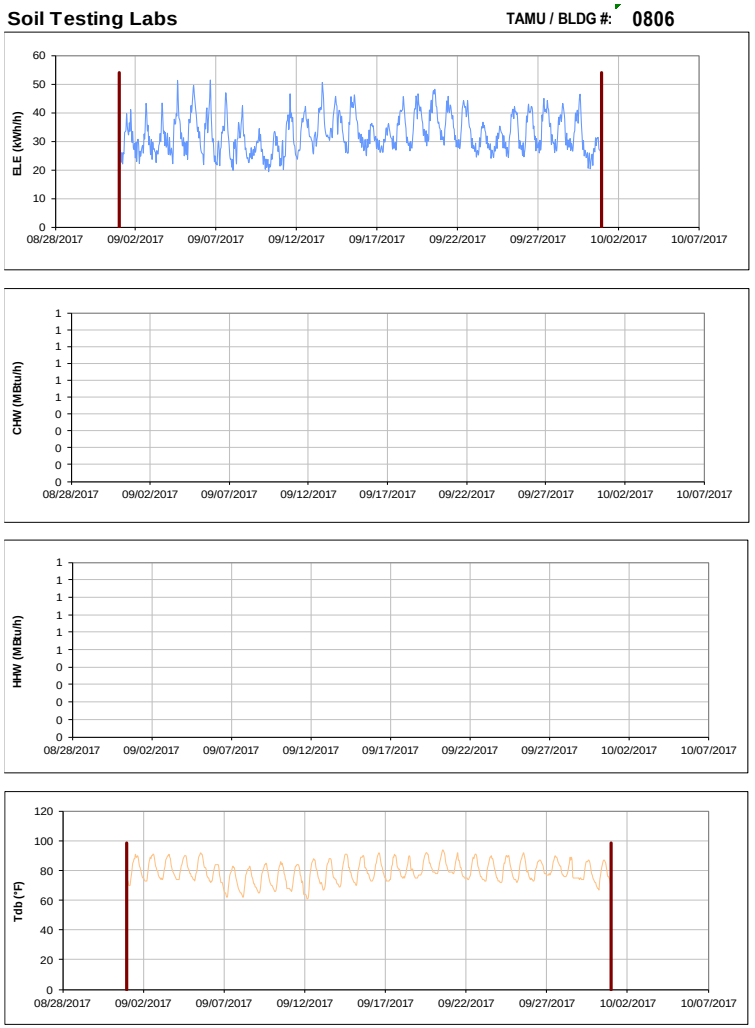


Figure III-128 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Soil Testing Labs during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

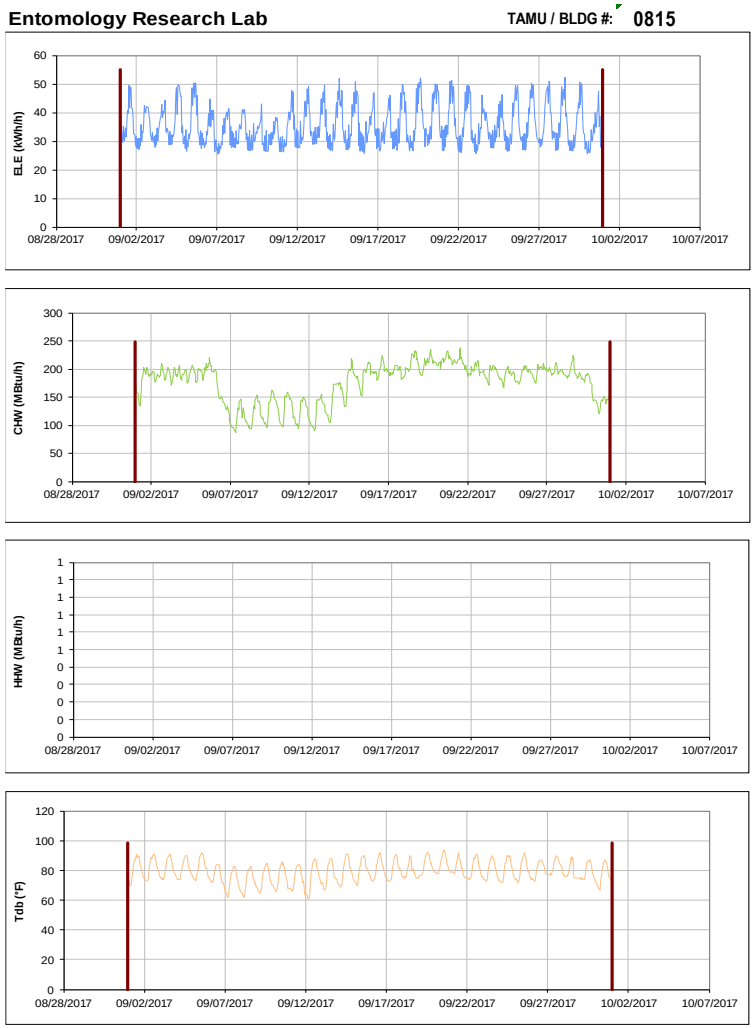


Figure III-129 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Entomology Research Lab during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

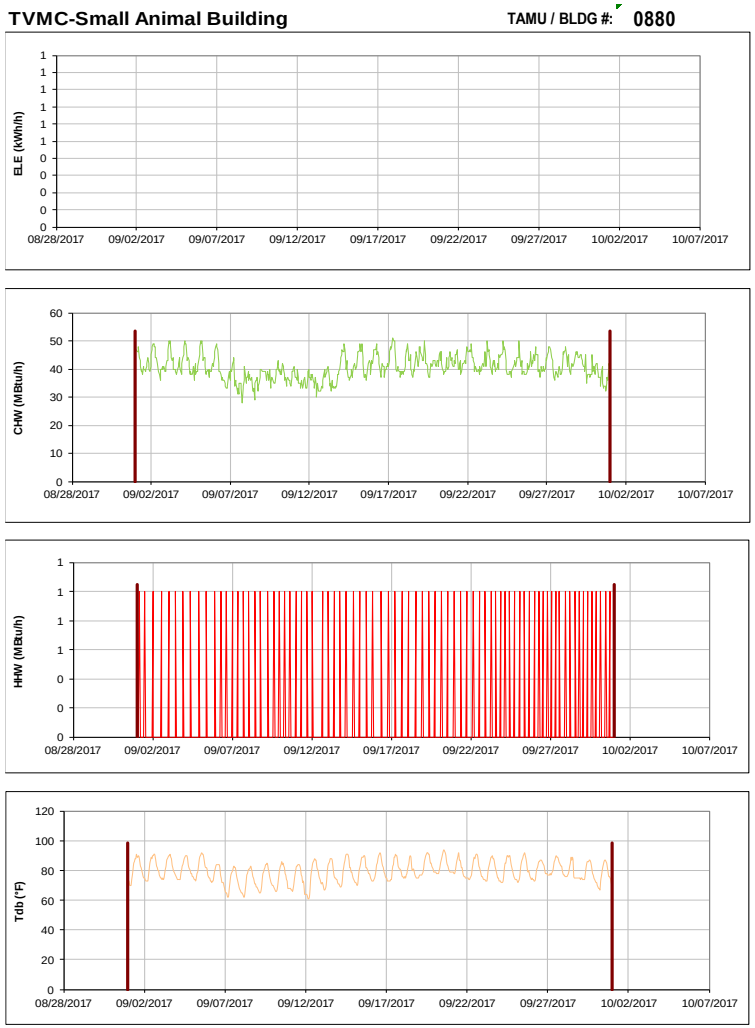


Figure III-130 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TVMC-Small Animal Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

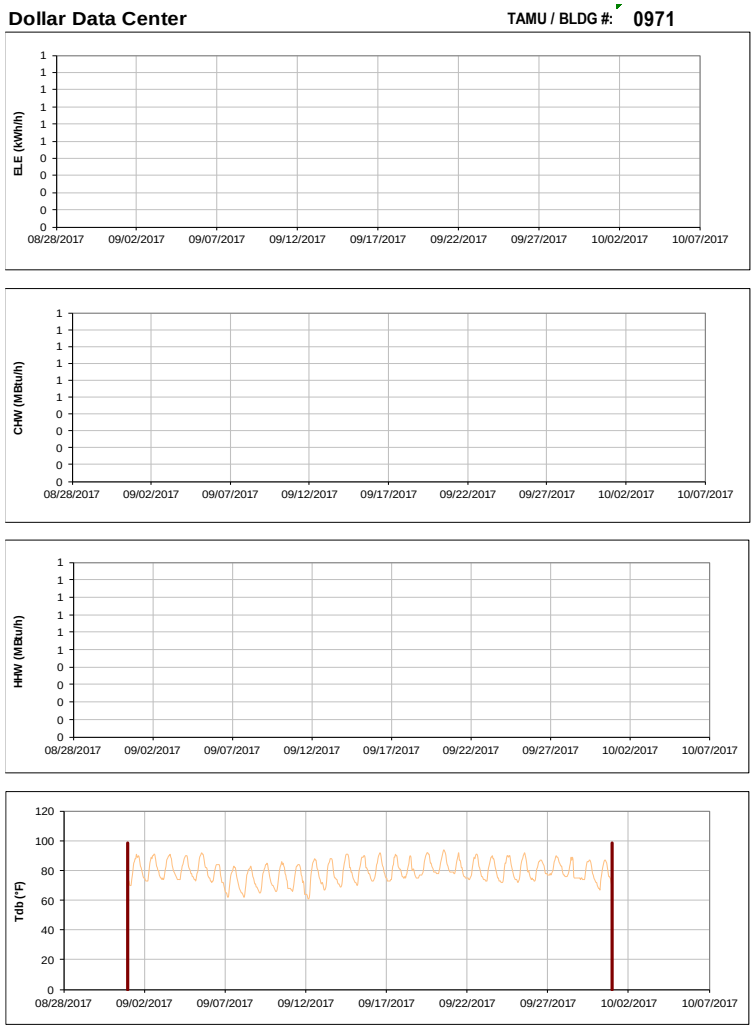


Figure III-131 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Dollar Data Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

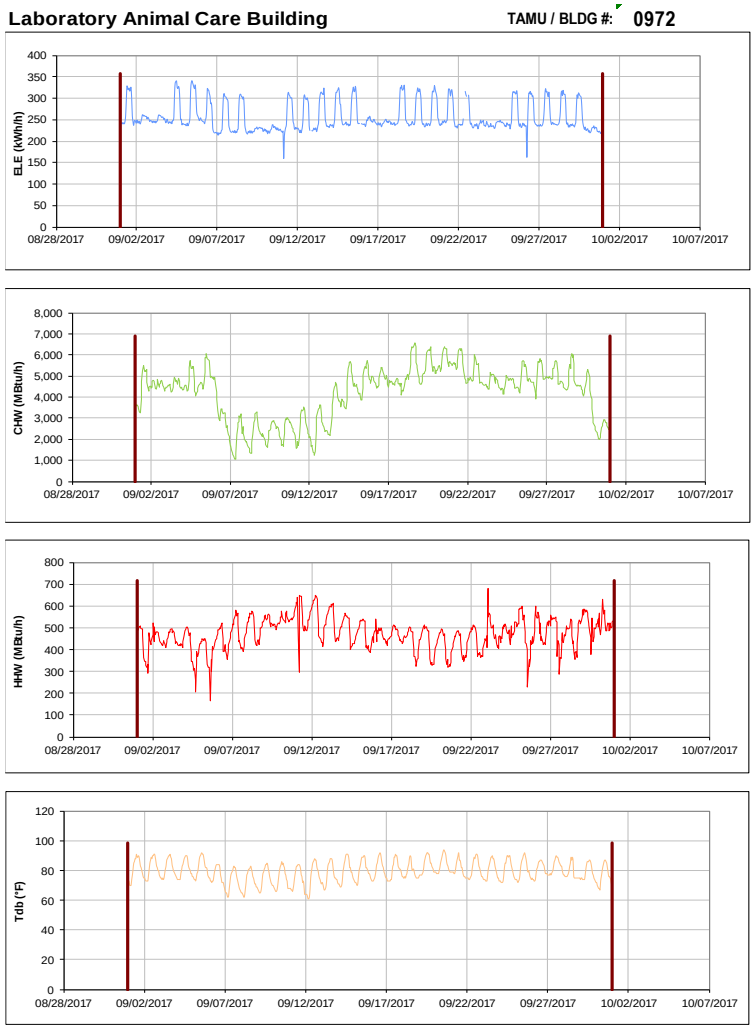


Figure III-132 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Laboratory Animal Care Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

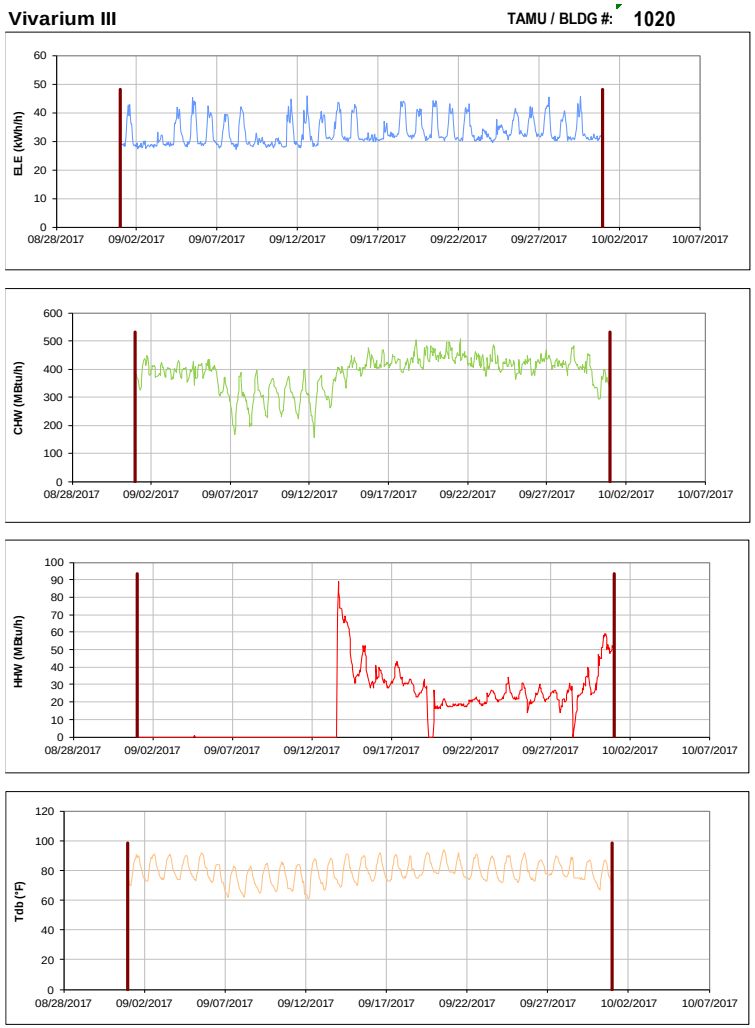


Figure III-133 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vivarium III during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

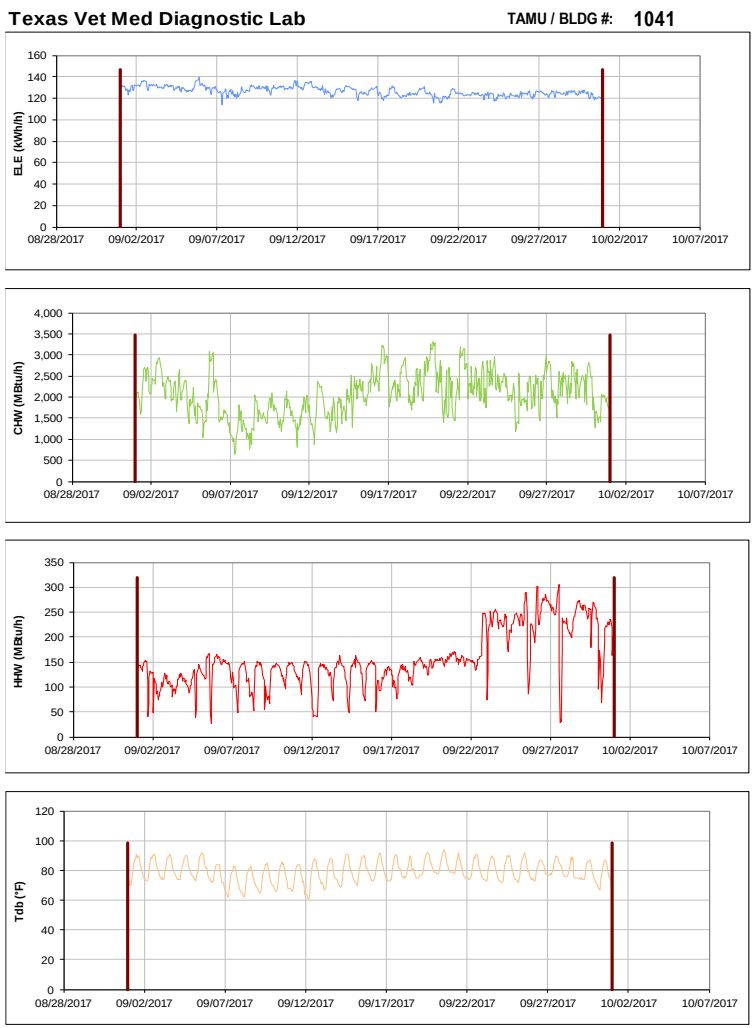


Figure III-134 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Vet Med Diagnostic Lab during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

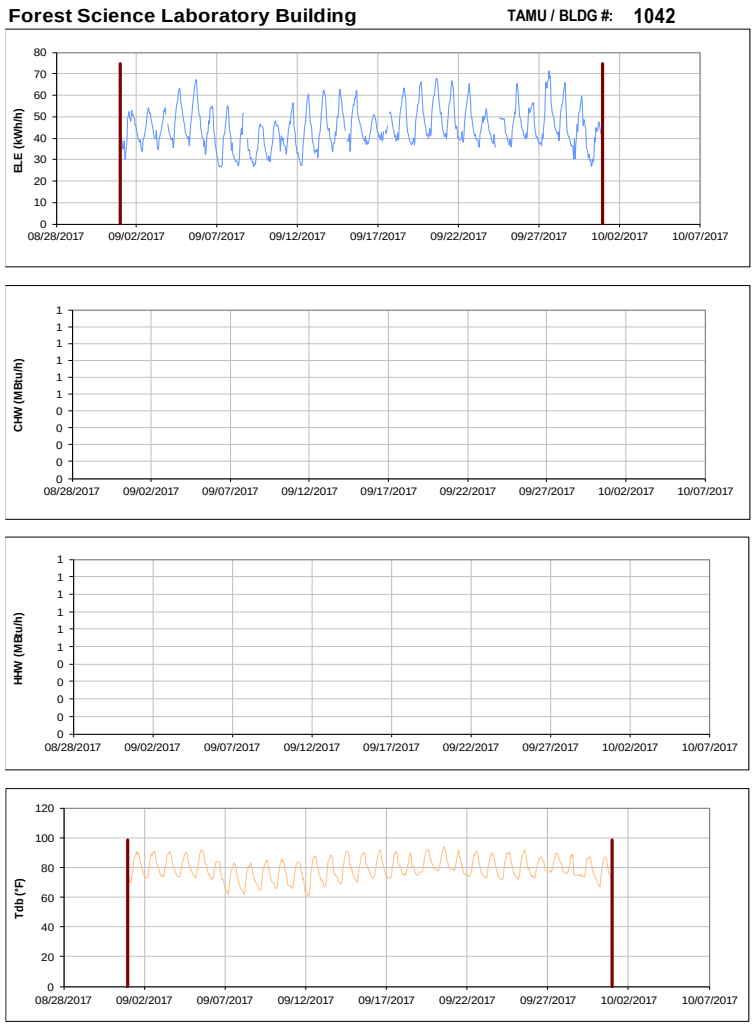


Figure III-135 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Forest Science Laboratory Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

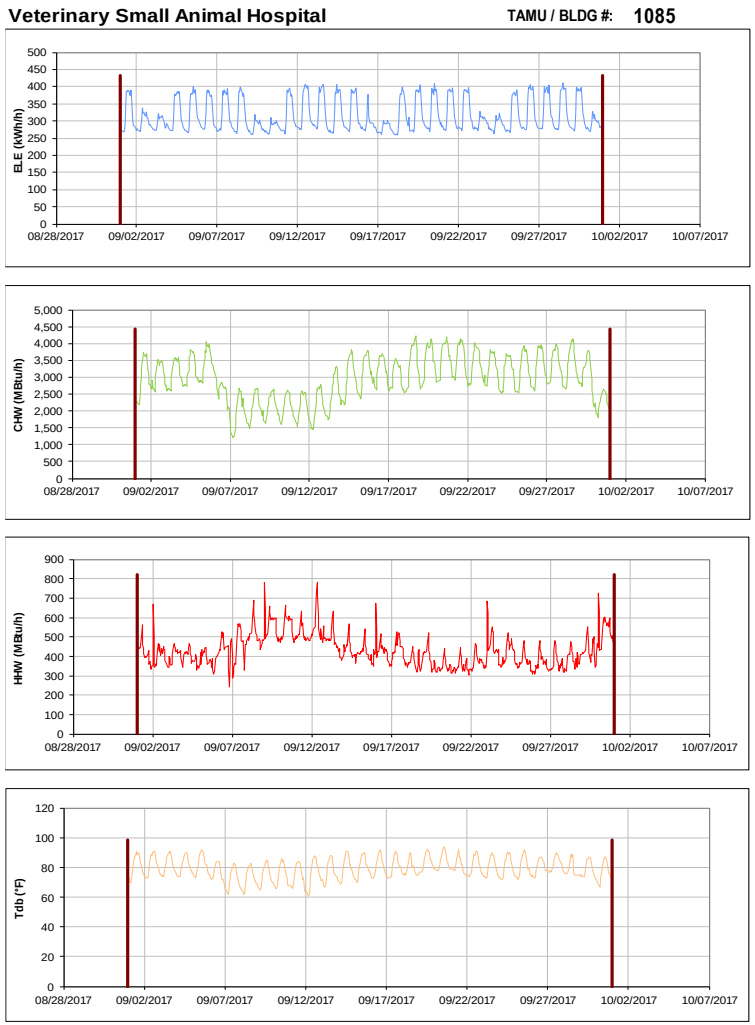


Figure III-136 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Small Animal Hospital during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

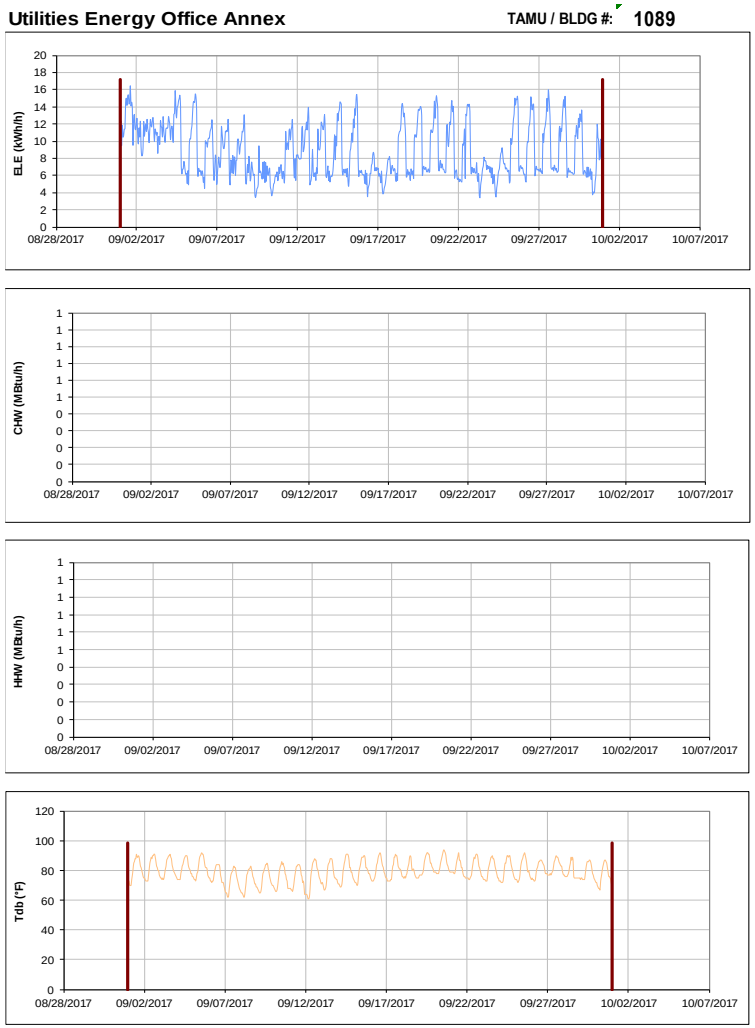


Figure III-137 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities Energy Office Annex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

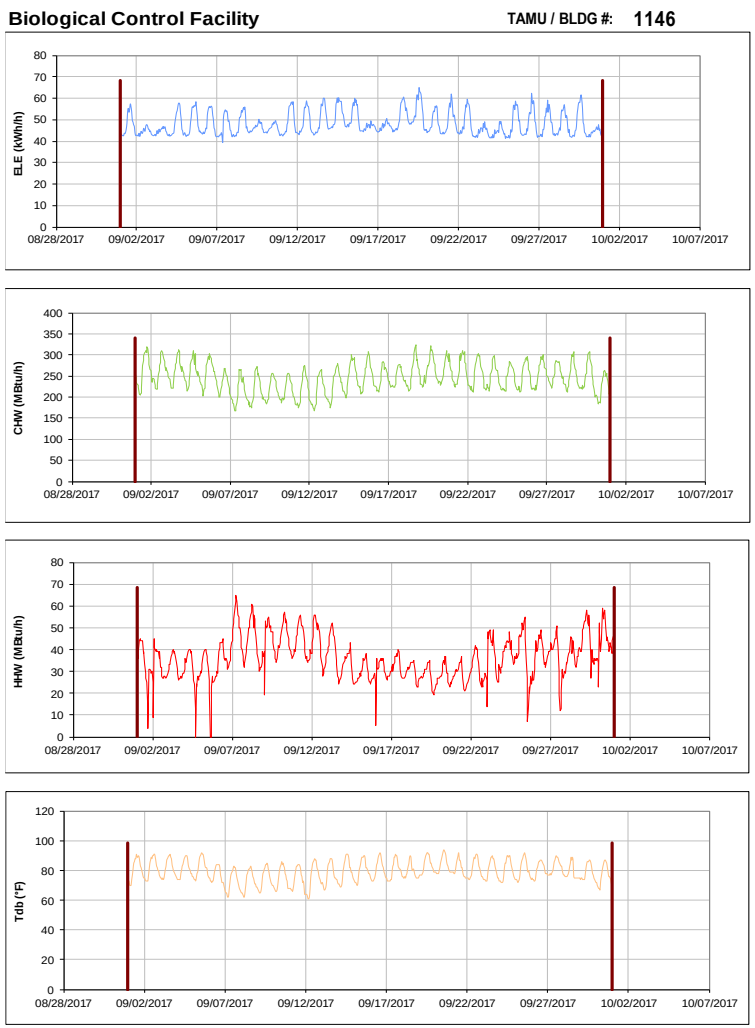


Figure III-138 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Control Facility during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

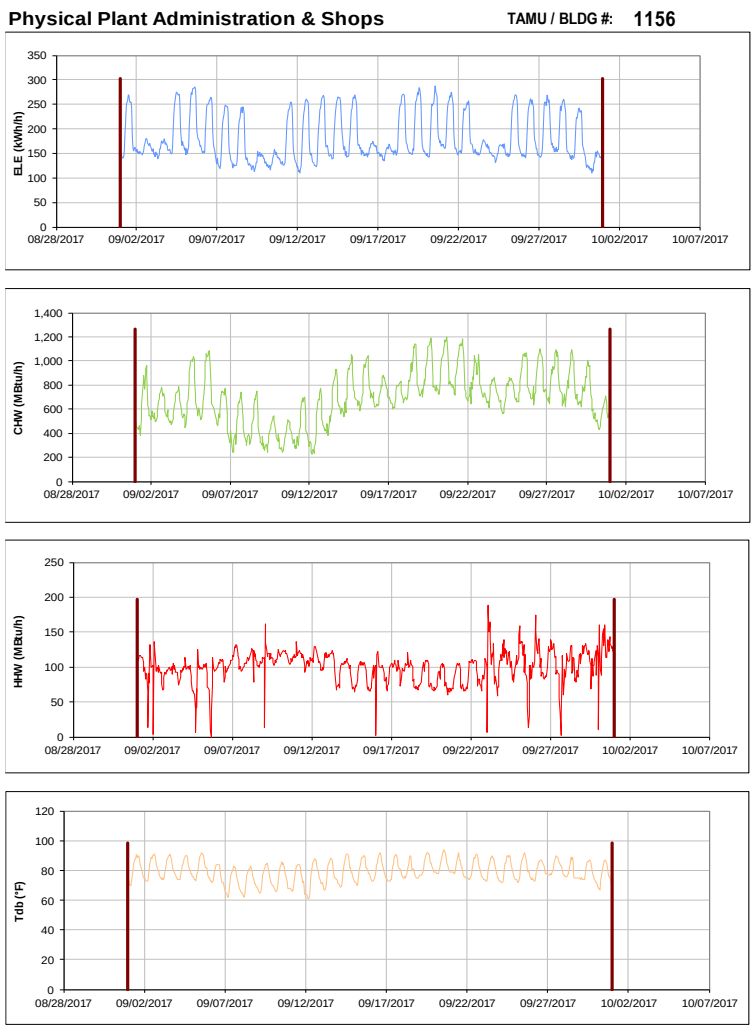


Figure III-139 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Plant Administration & Shops during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

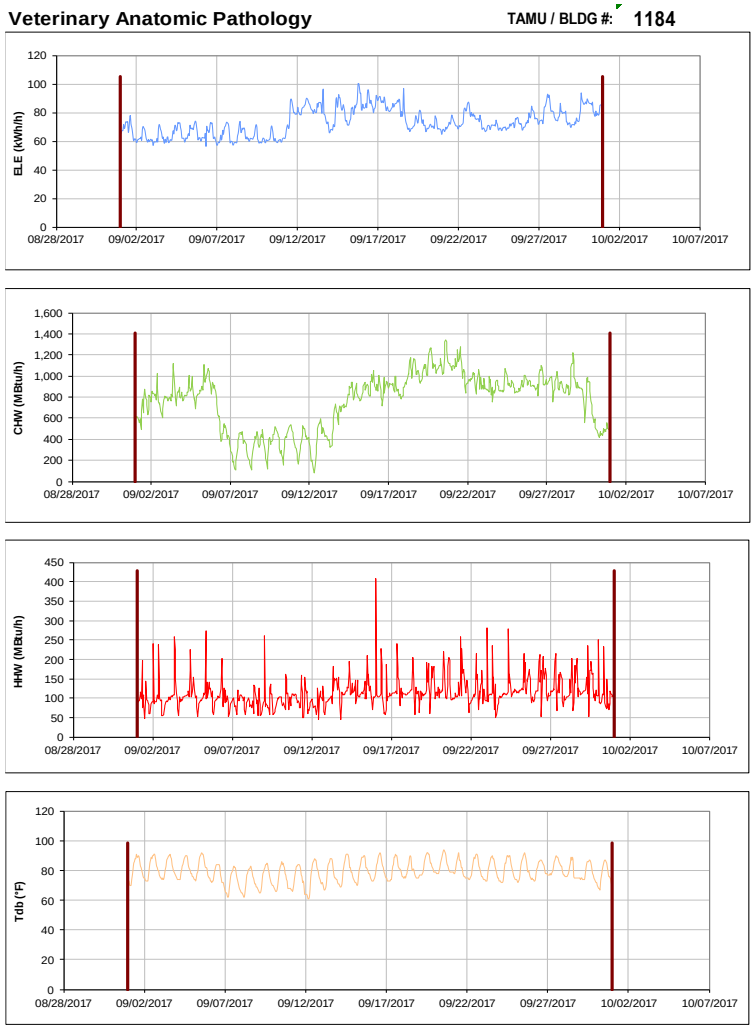


Figure III-140 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Anatomic Pathology during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

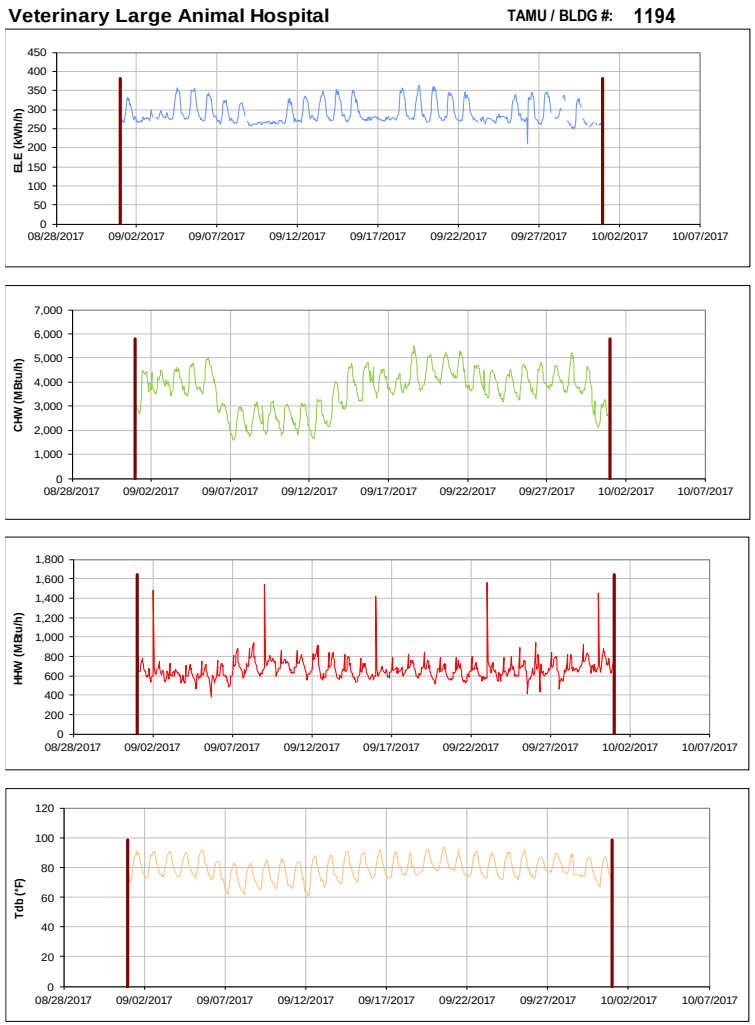


Figure III-141 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Large Animal Hospital during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

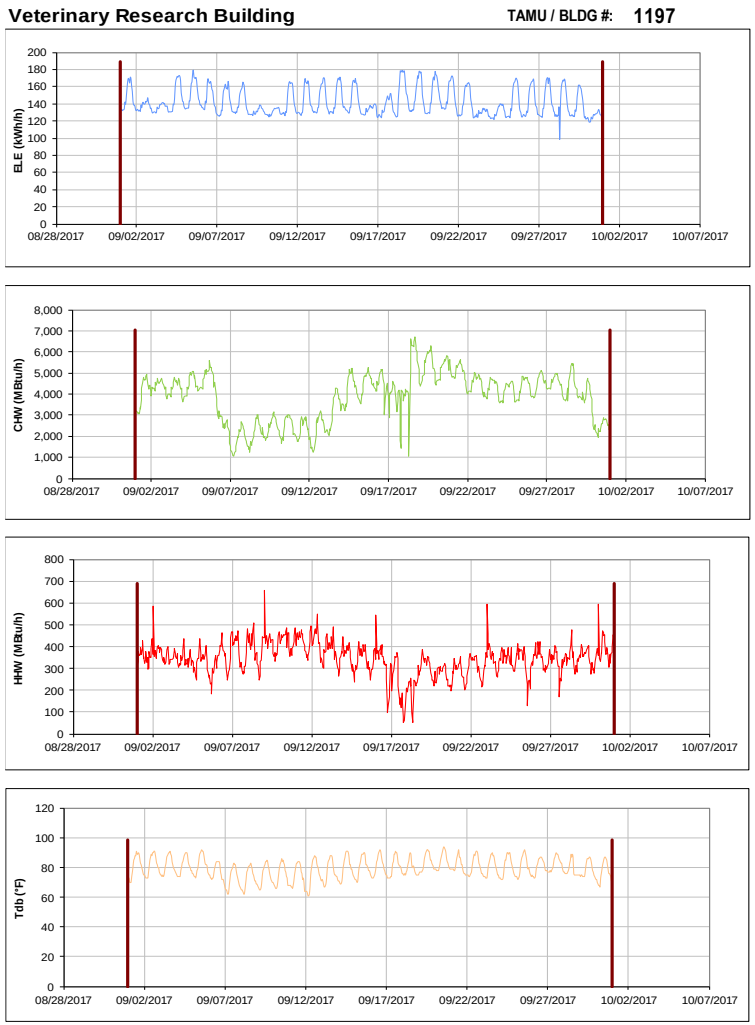


Figure III-142 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Research Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

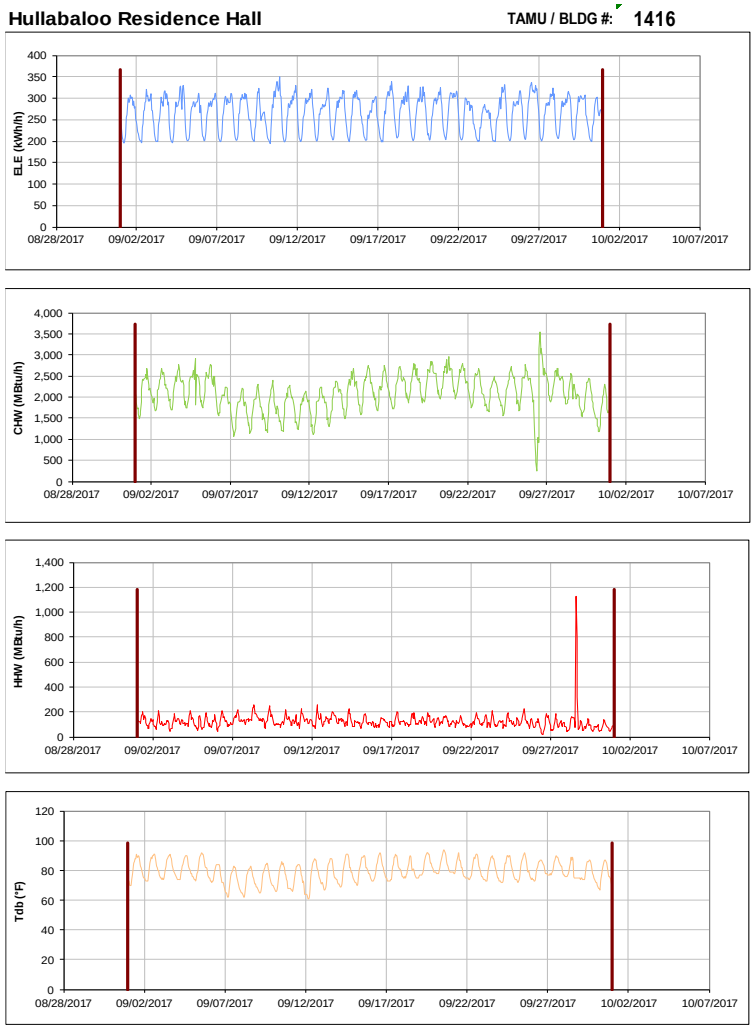


Figure III-143 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hullabaloo Residence Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

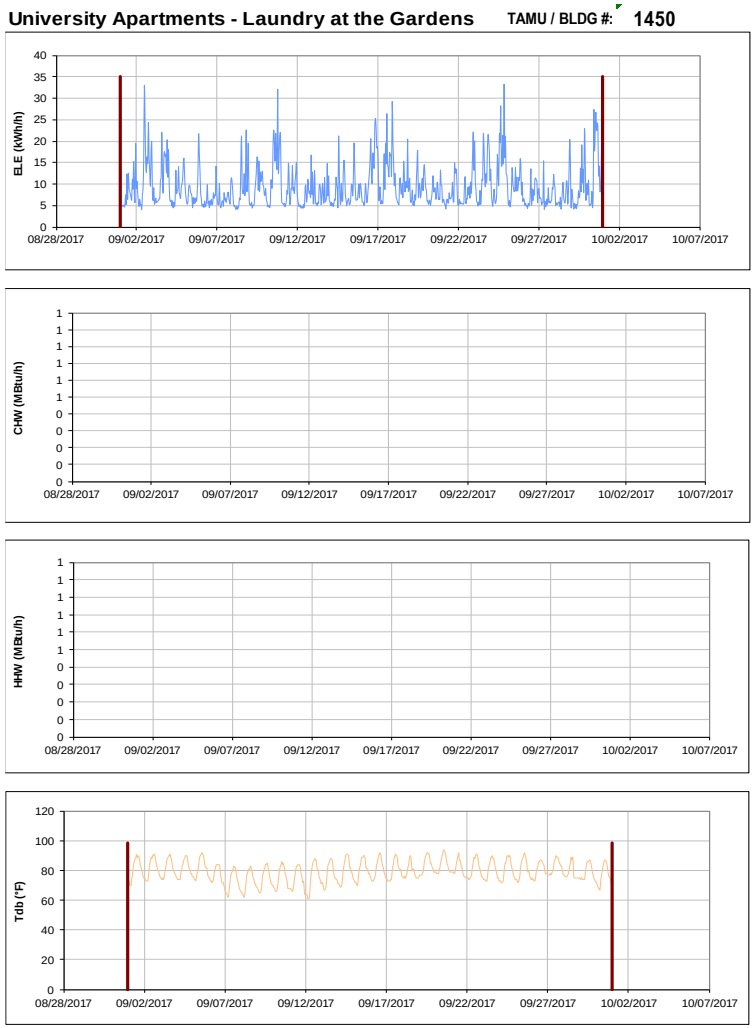


Figure III-144 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - Laundry at the Gardens during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

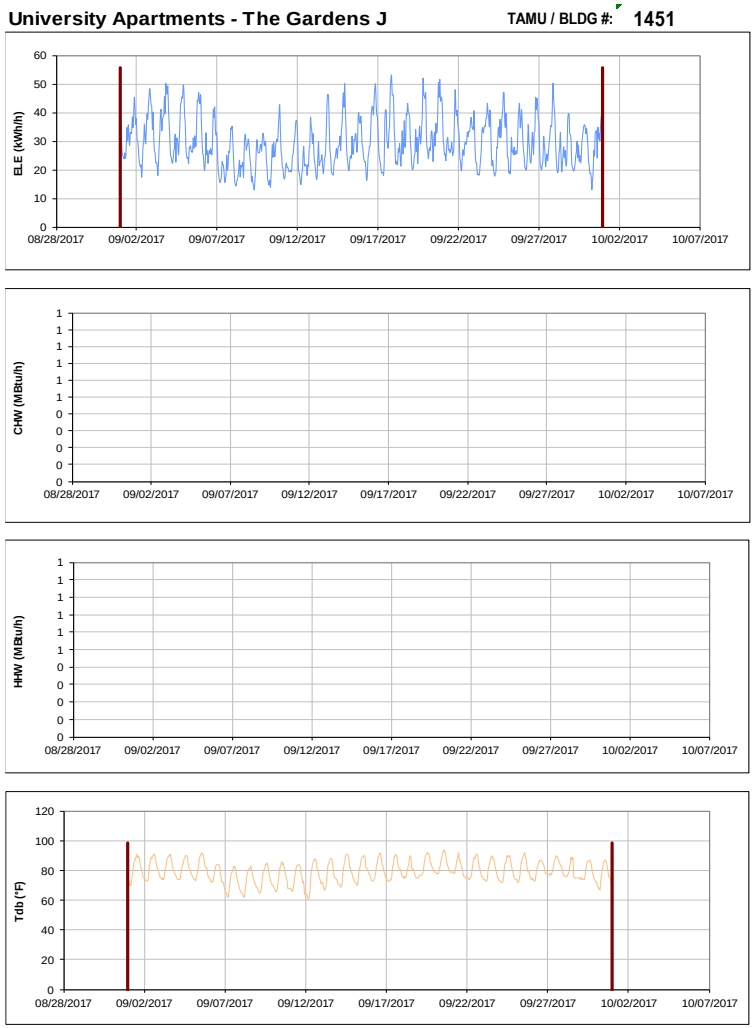


Figure III-145 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens J during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

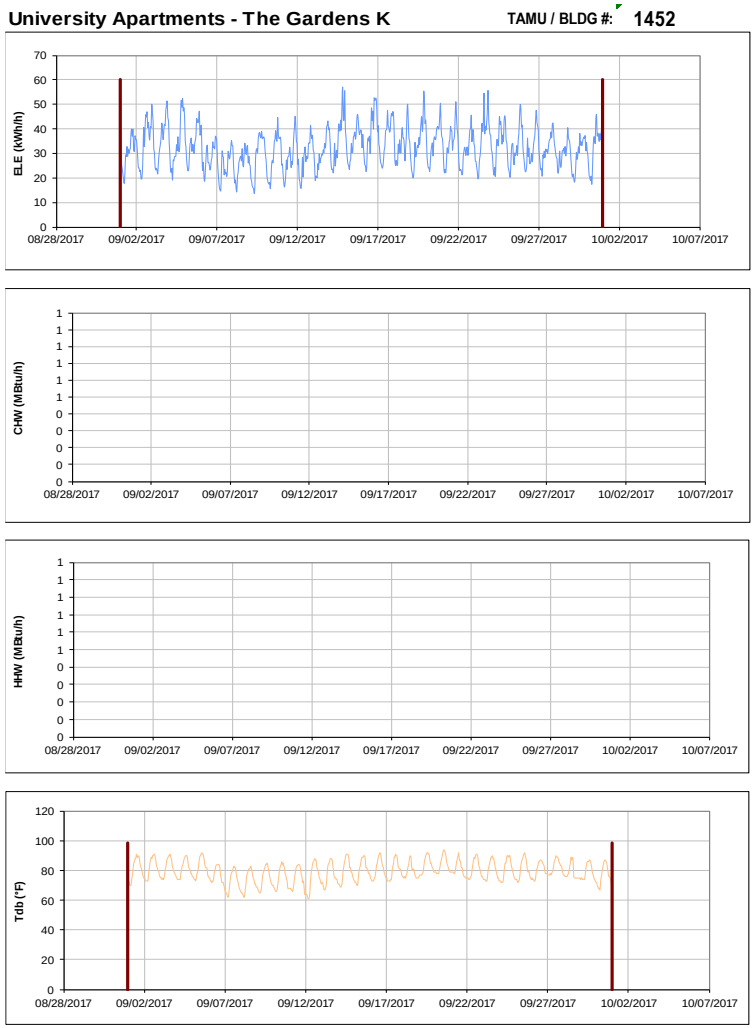


Figure III-146 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens K during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

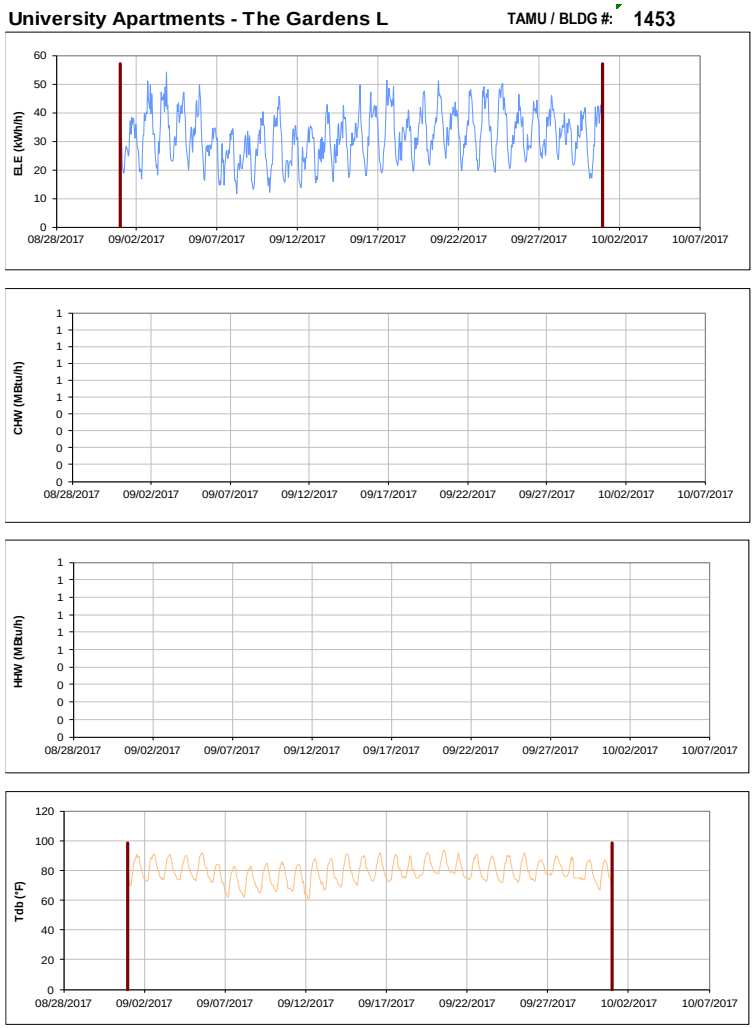


Figure III-147 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens L during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

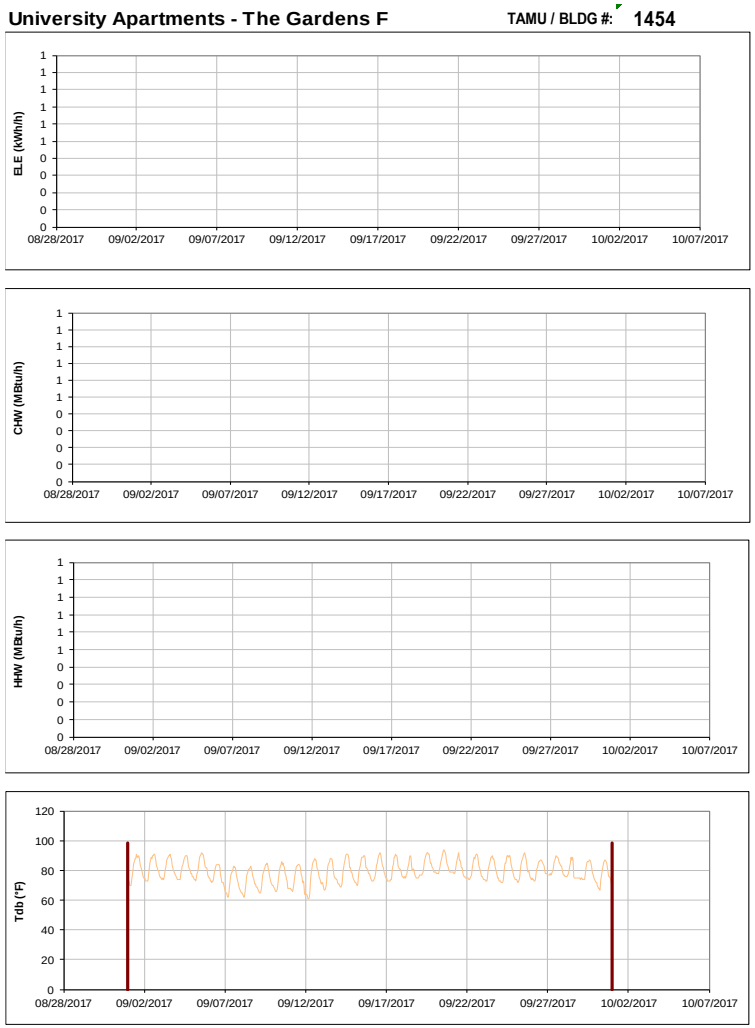


Figure III-148 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens F during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

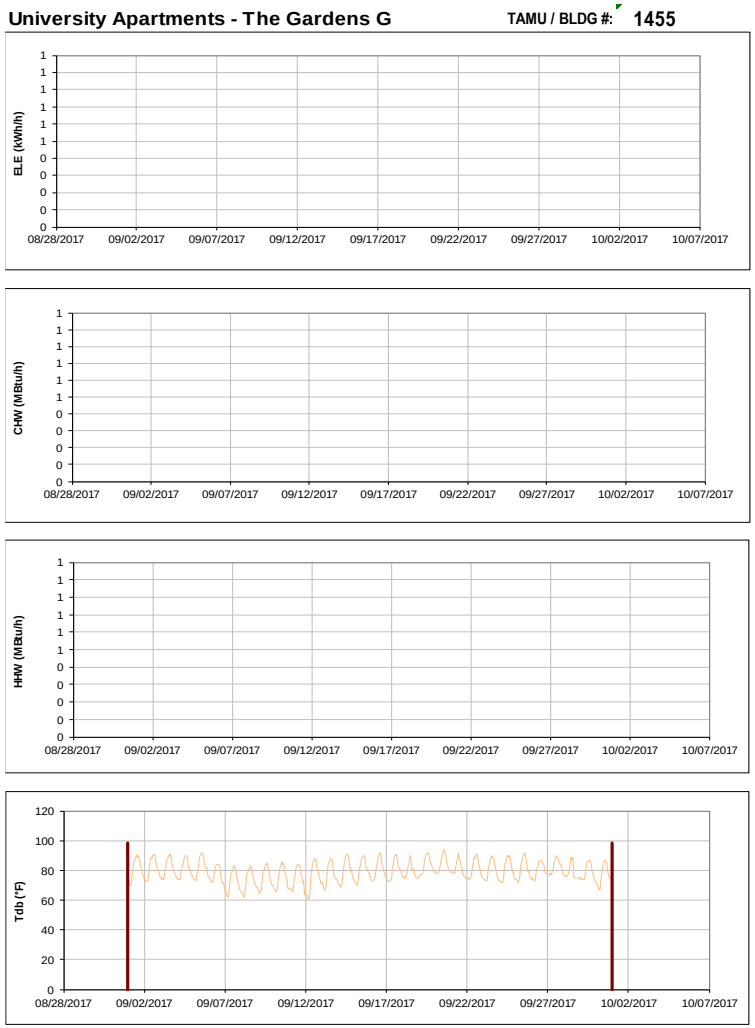


Figure III-149 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens G during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

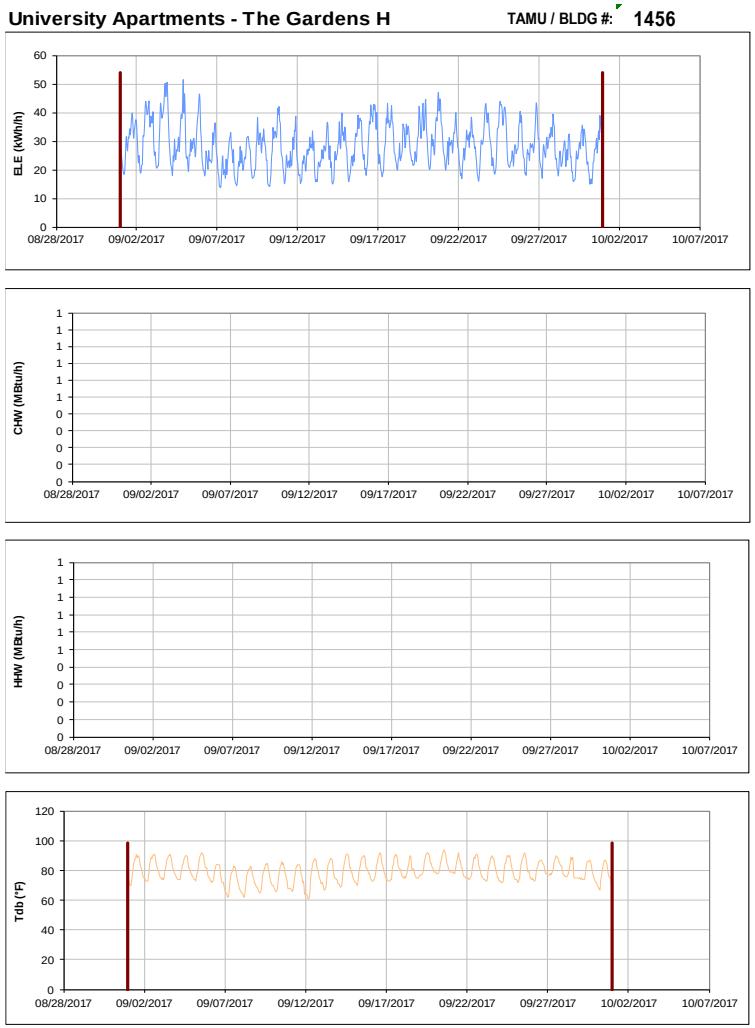


Figure III-150 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens H during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

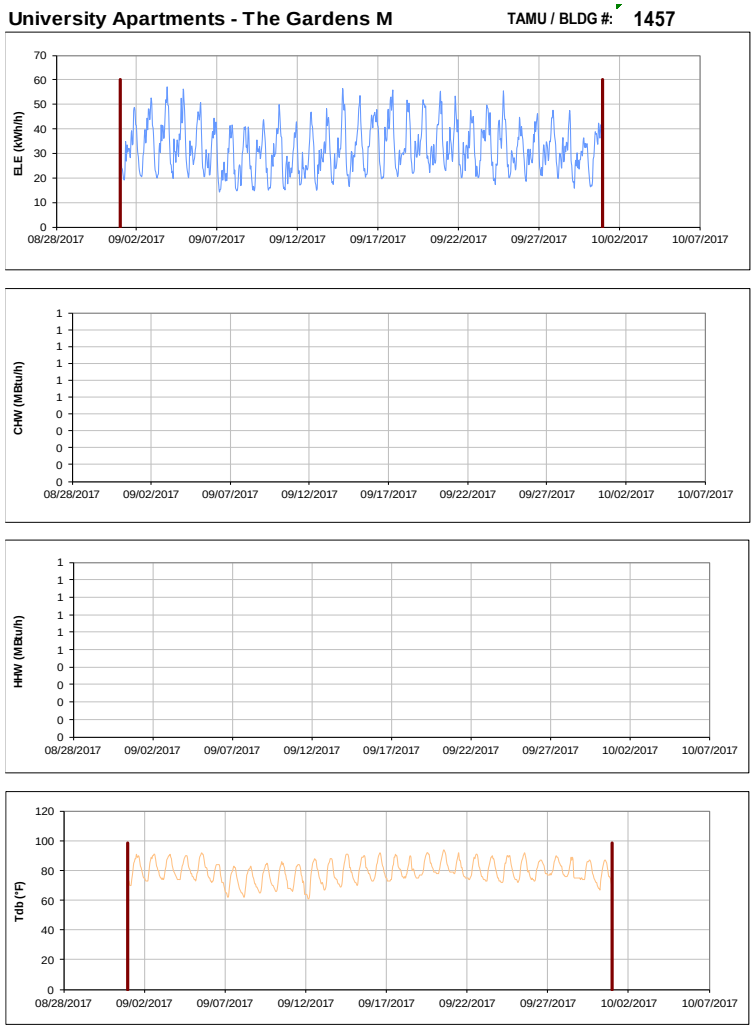


Figure III-151 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens M during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

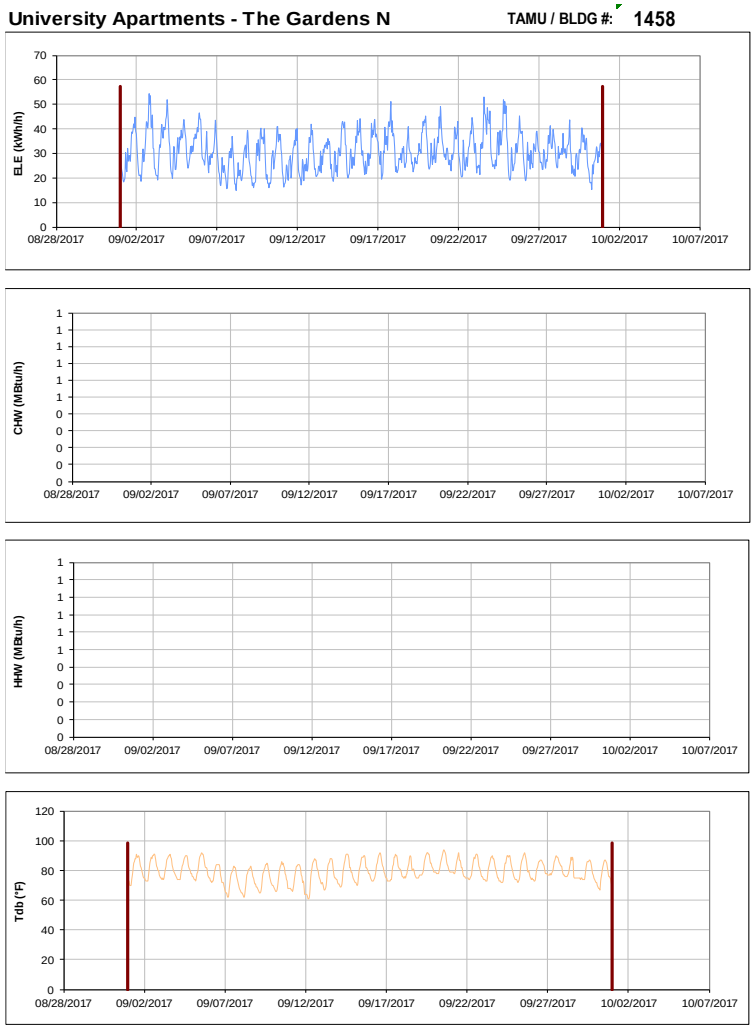


Figure III-152 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens N during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

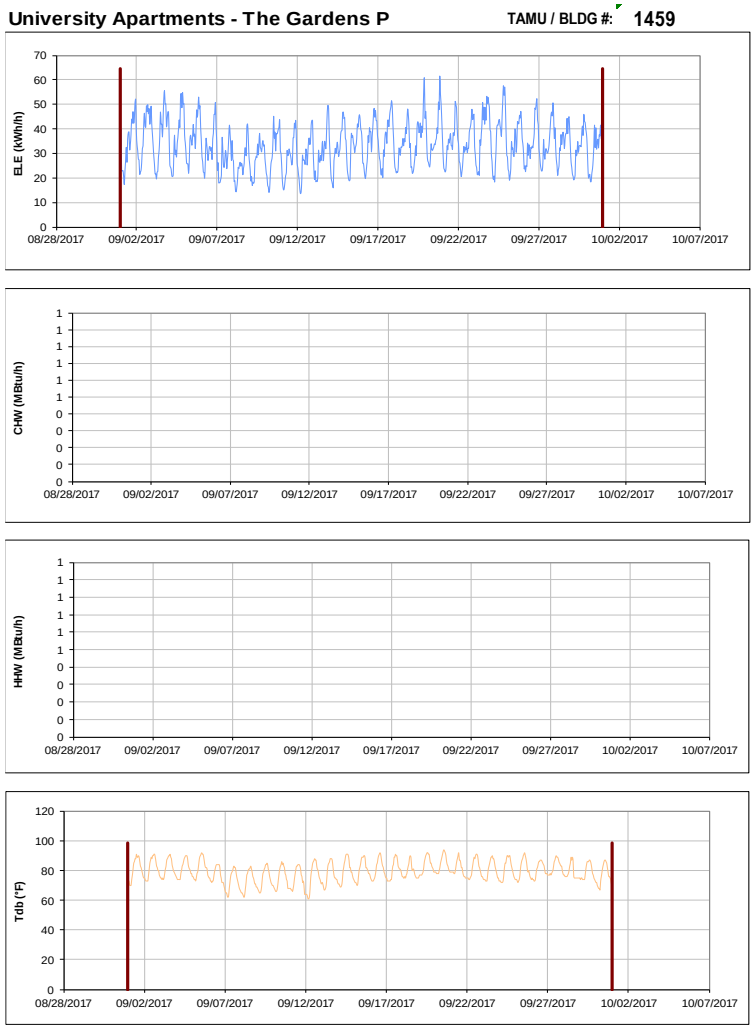


Figure III-153 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens P during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

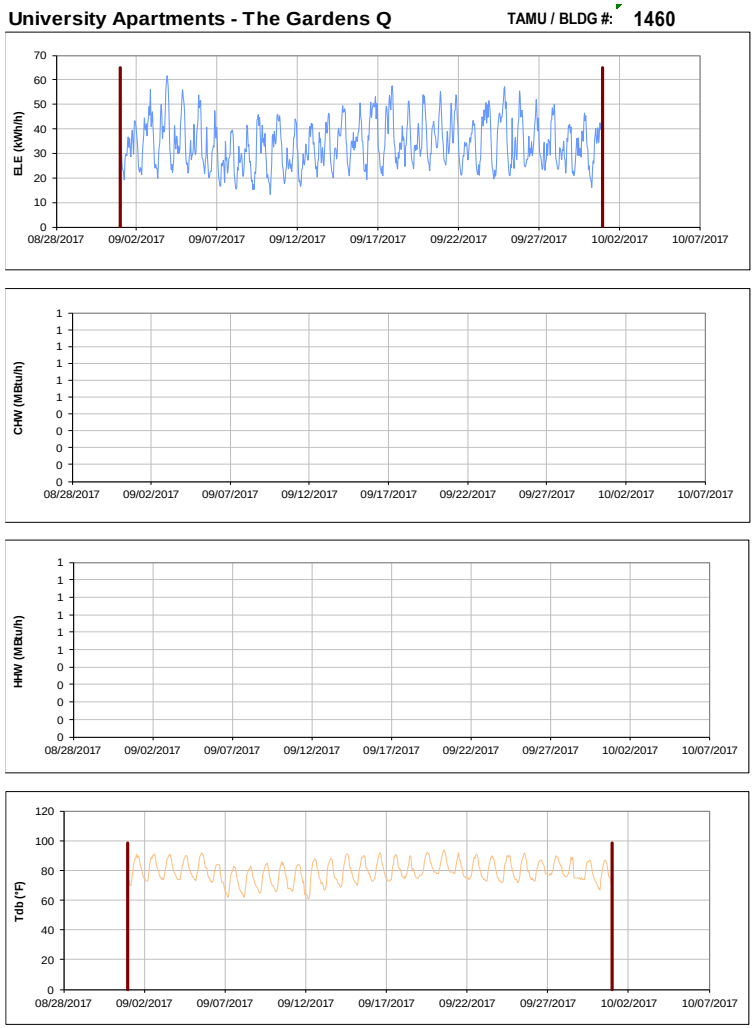


Figure III-154 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens Q during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

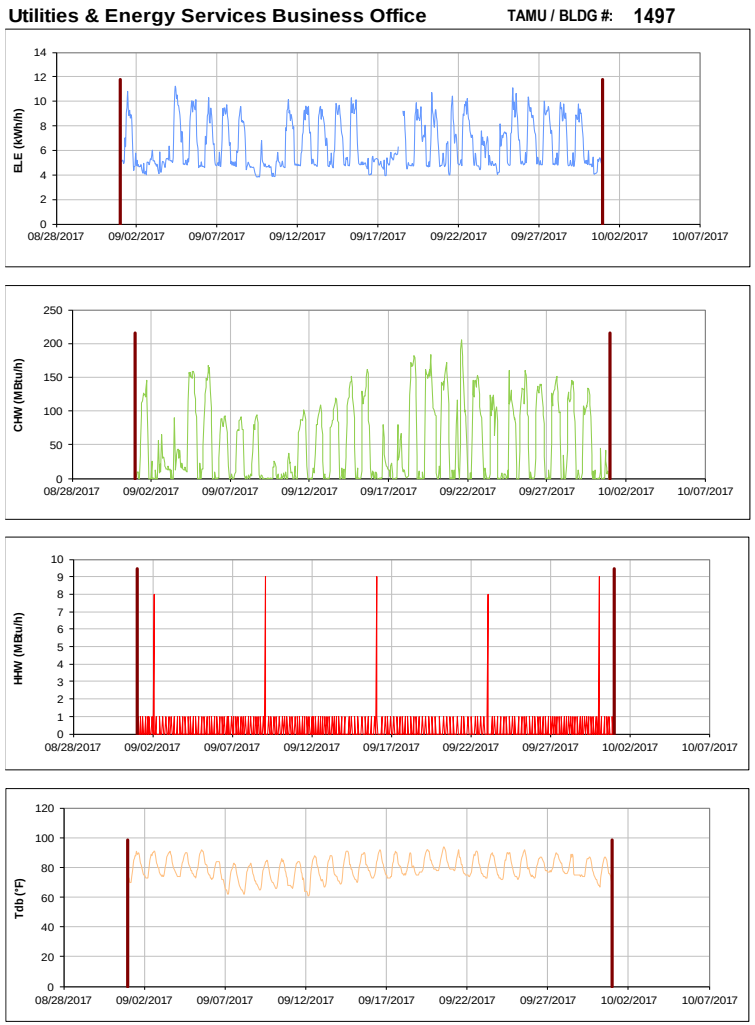


Figure III-155 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Business Office during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

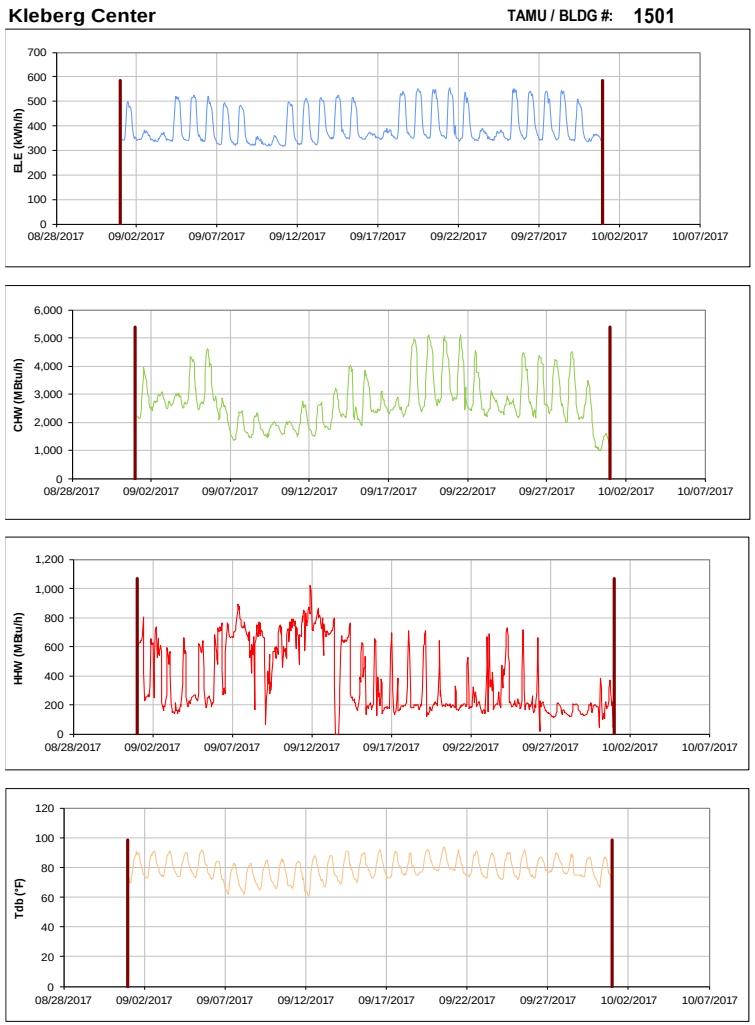


Figure III-156 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kleberg Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

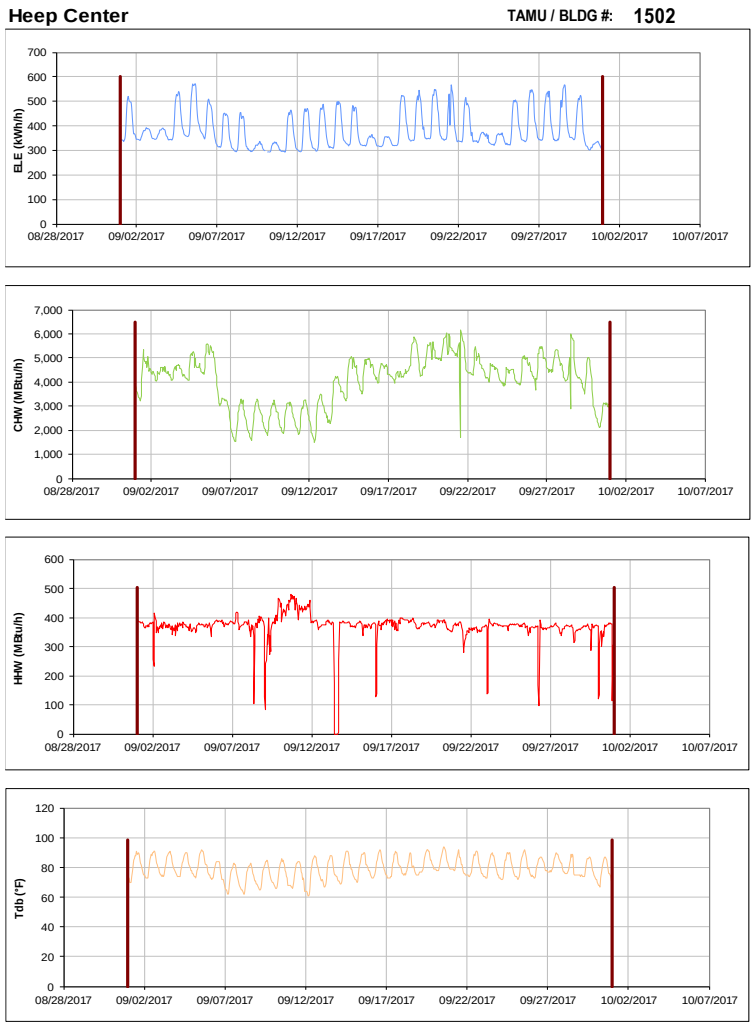


Figure III-157 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Figure III-158 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cater-Mattil Hall during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

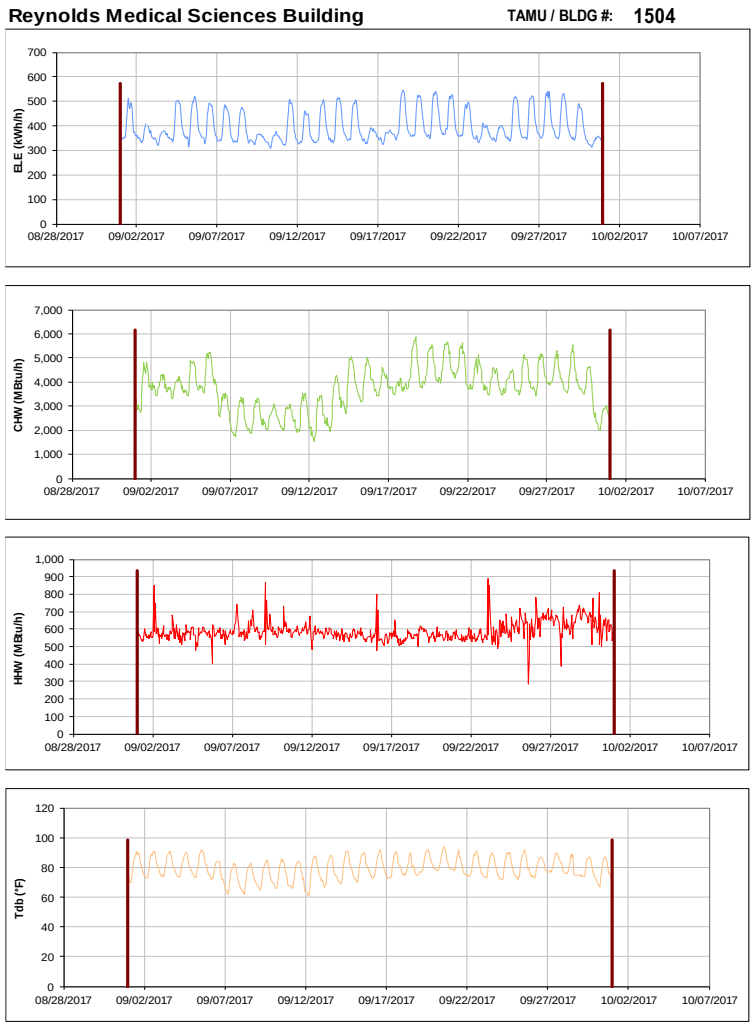


Figure III-159 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reynolds Medical Sciences Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

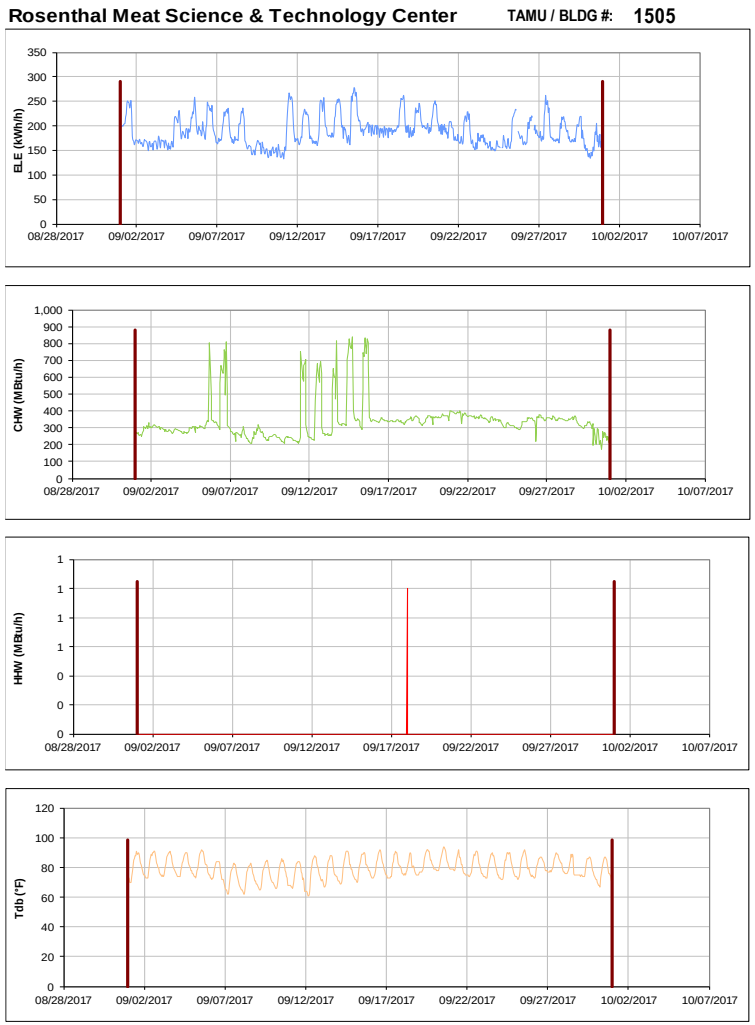


Figure III-160 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rosenthal Meat Science & Technology Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

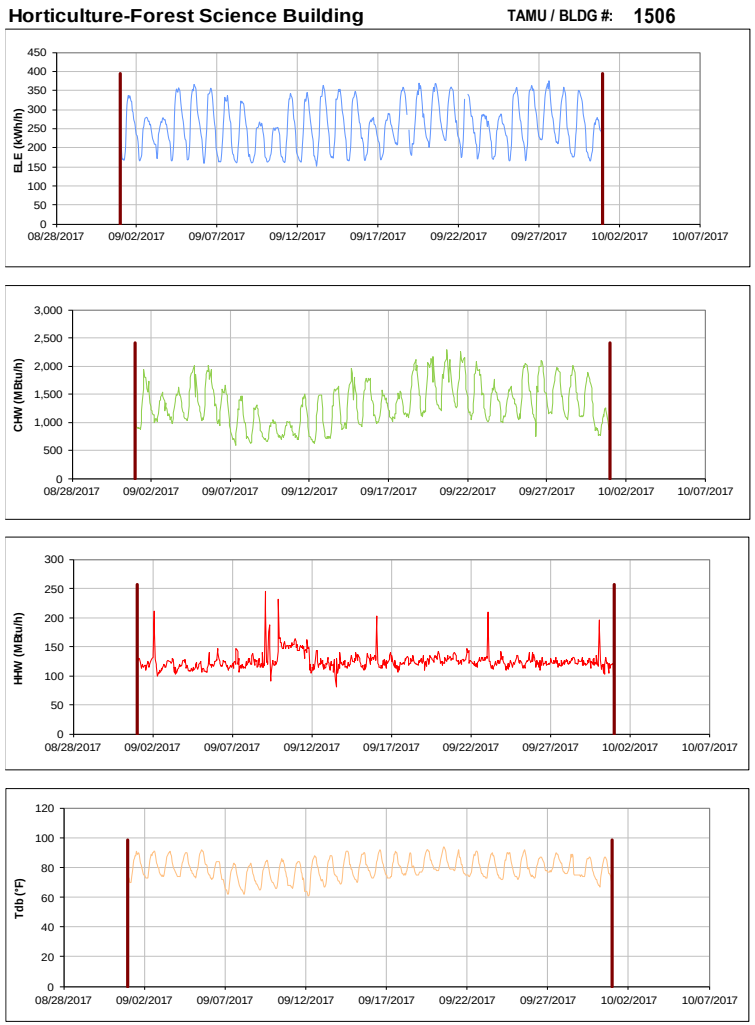


Figure III-161 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Horticulture-Forest Science Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

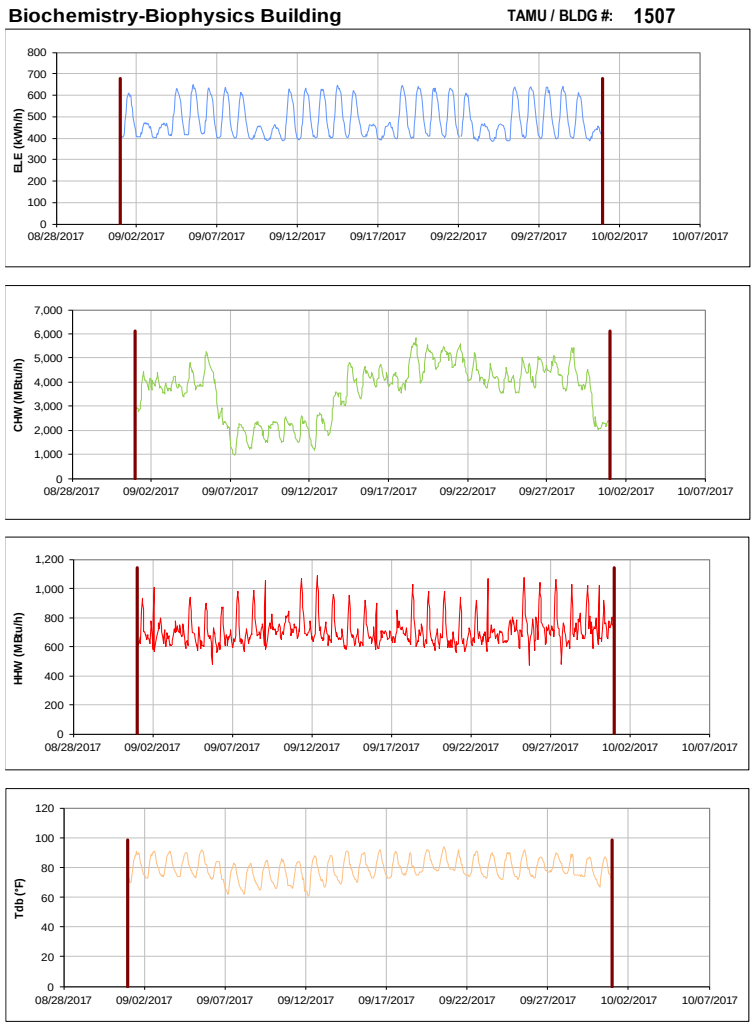


Figure III-162 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biochemistry-Biophysics Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

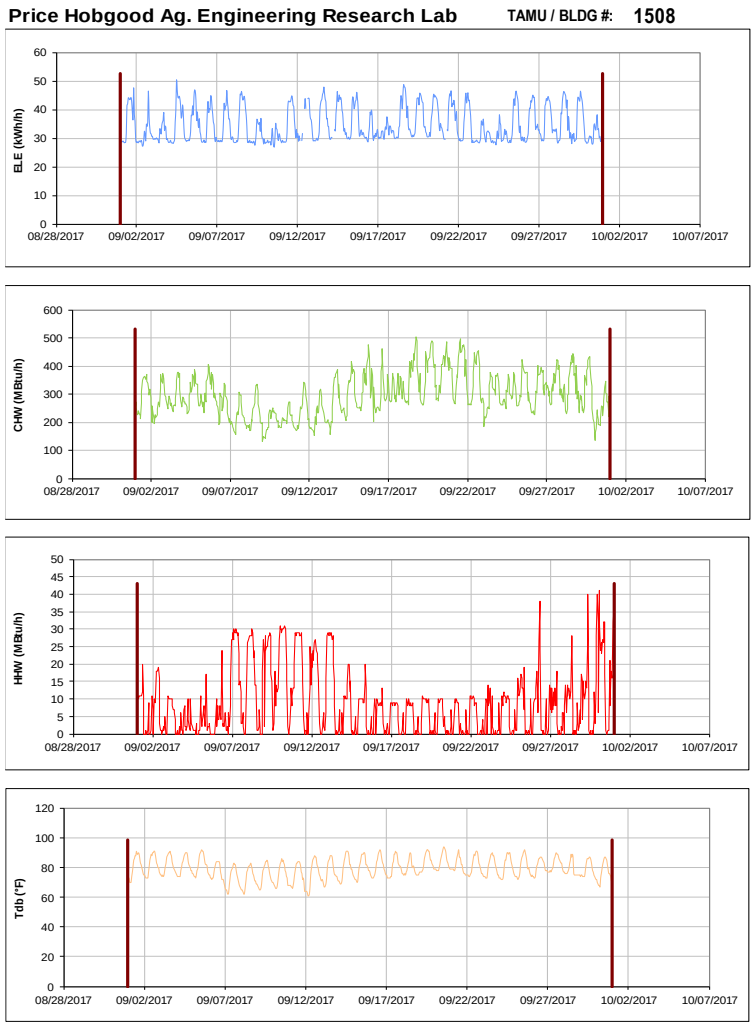


Figure III-163 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Price Hobgood Ag. Engineering Research Lab during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

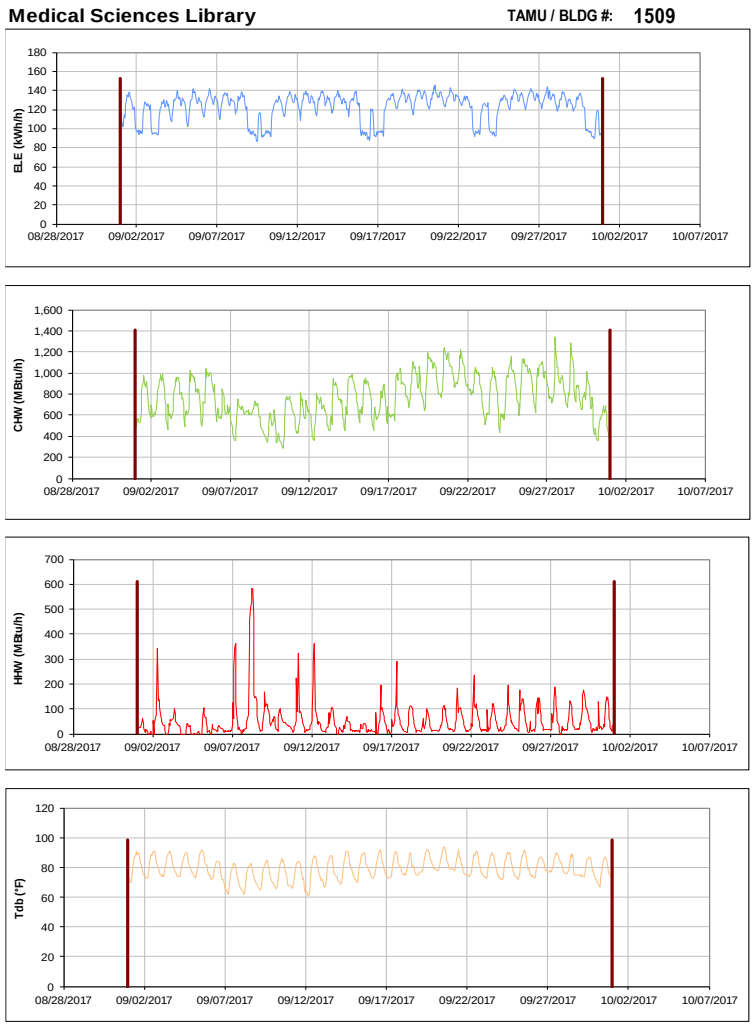


Figure III-164 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Medical Sciences Library during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

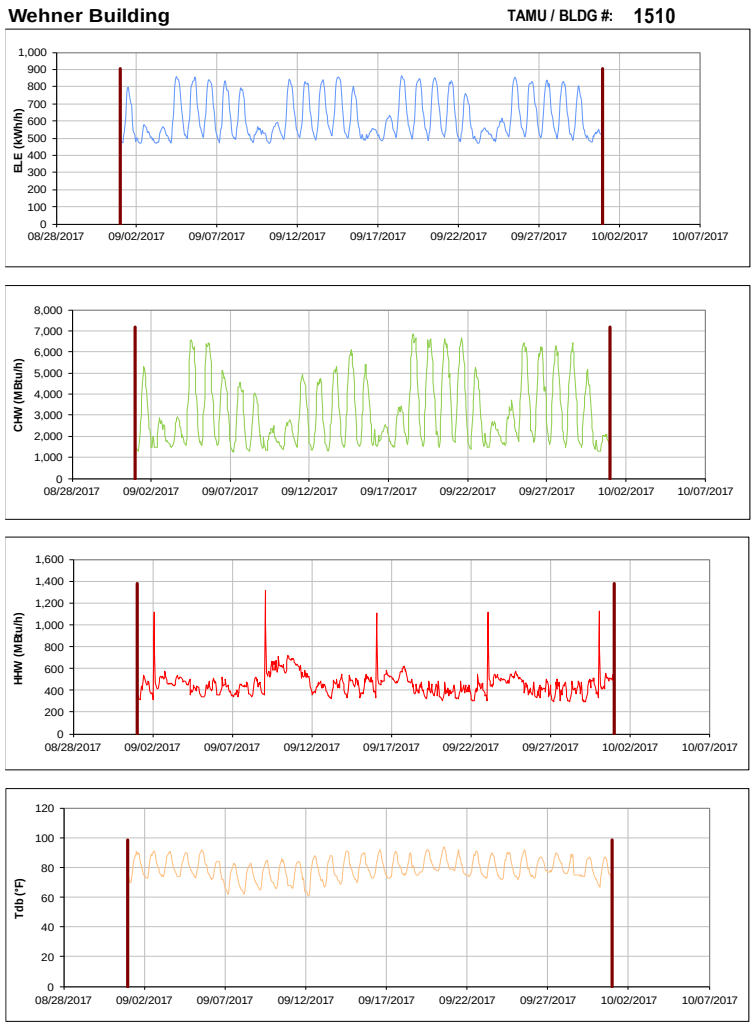


Figure III-165 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wehner Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

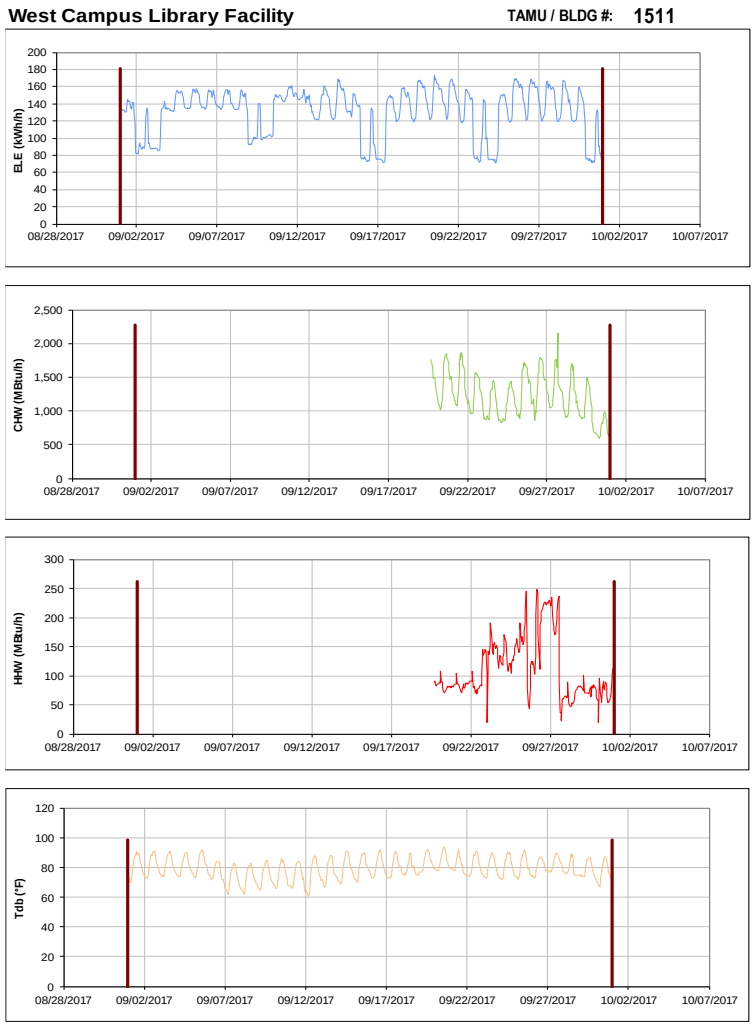


Figure III-166 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Library Facility during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

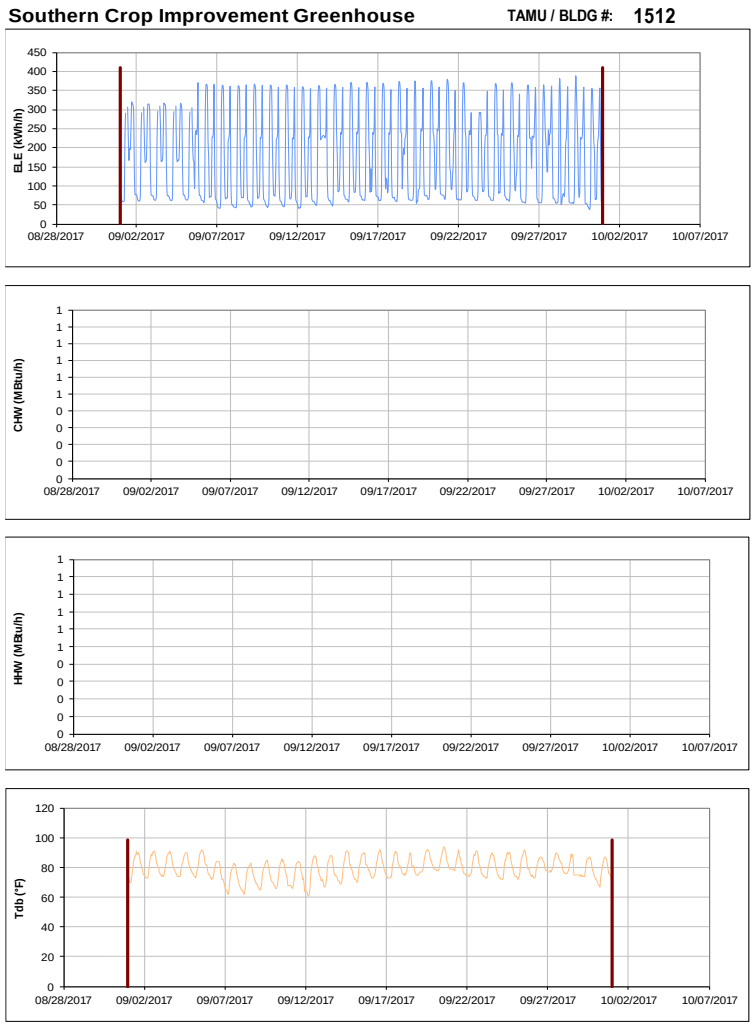


Figure III-167 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Southern Crop Improvement Greenhouse during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

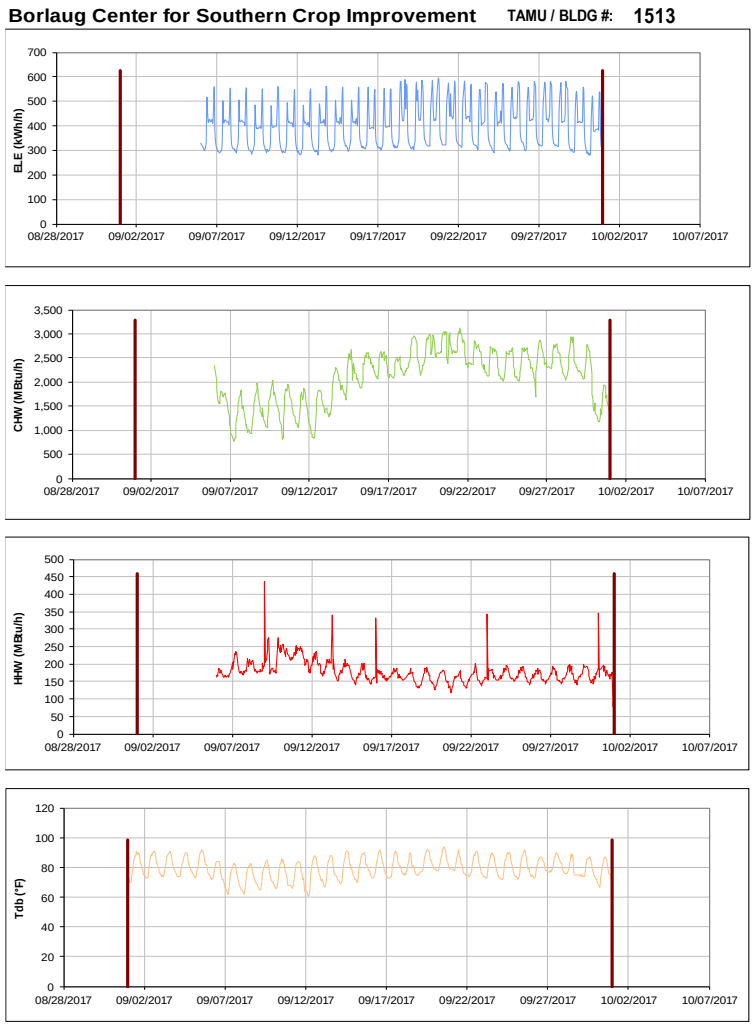


Figure III-168 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Borlaug Center for Southern Crop Improvement during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

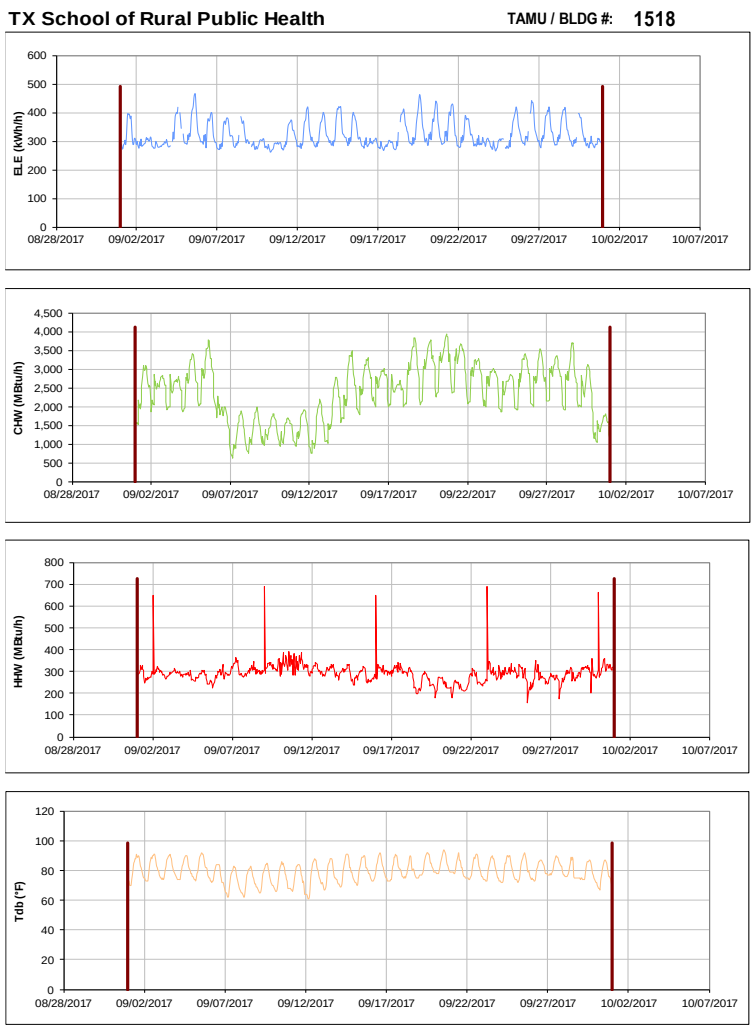


Figure III-169 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TX School of Rural Public Health during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

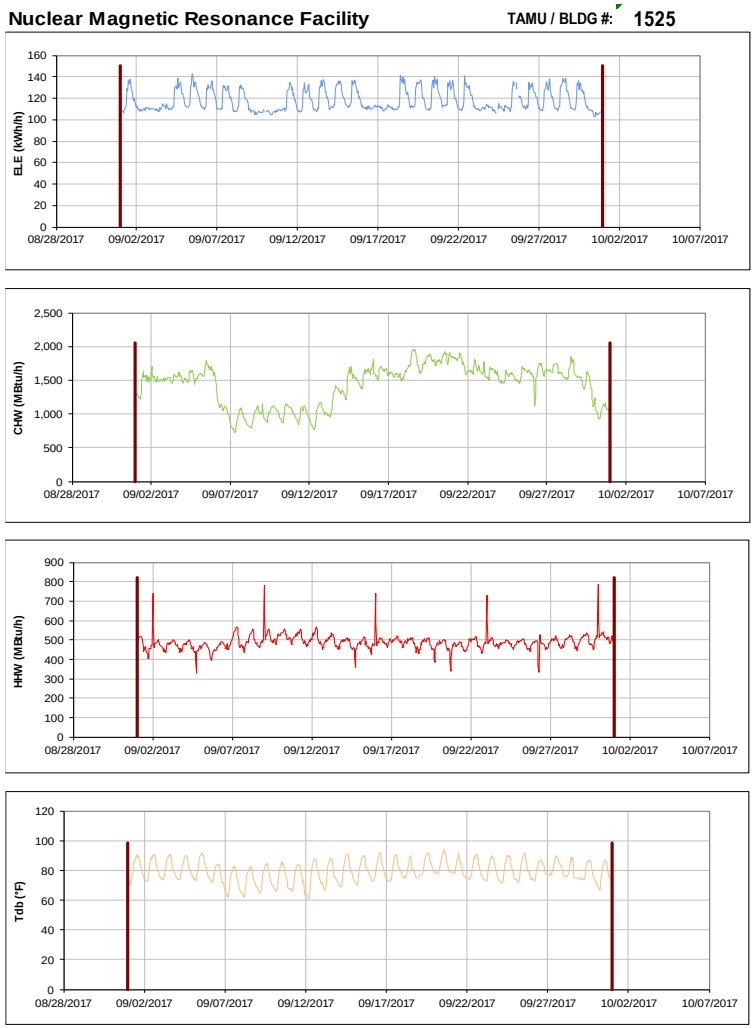


Figure III-170 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nuclear Magnetic Resonance Facility during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

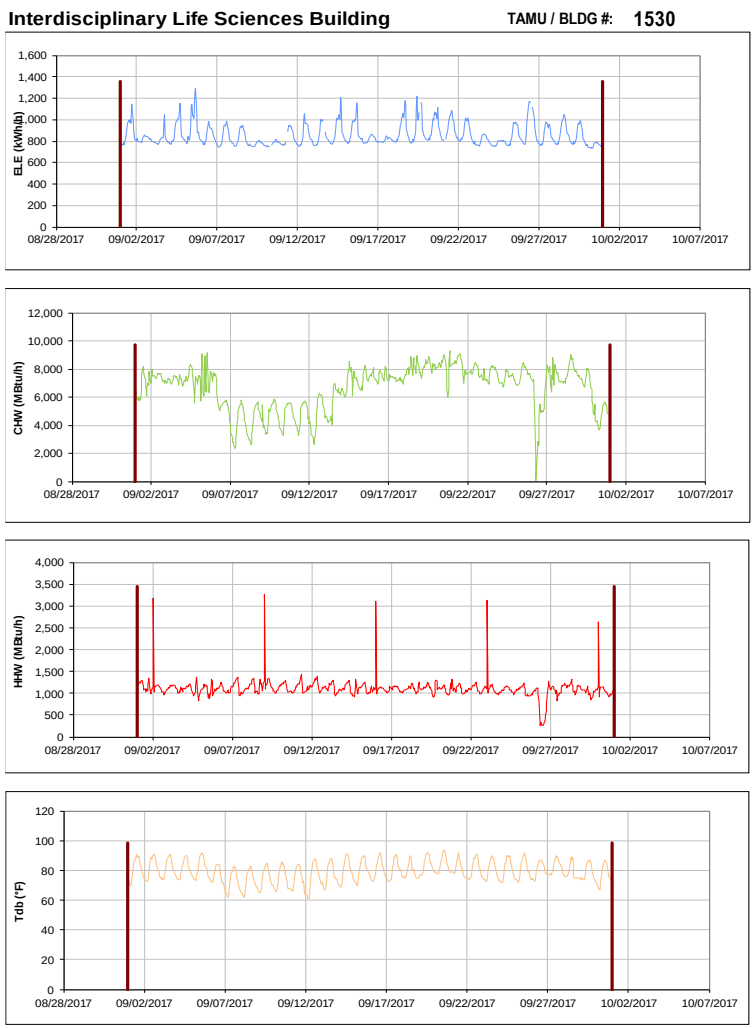


Figure III-171 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Interdisciplinary Life Sciences Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

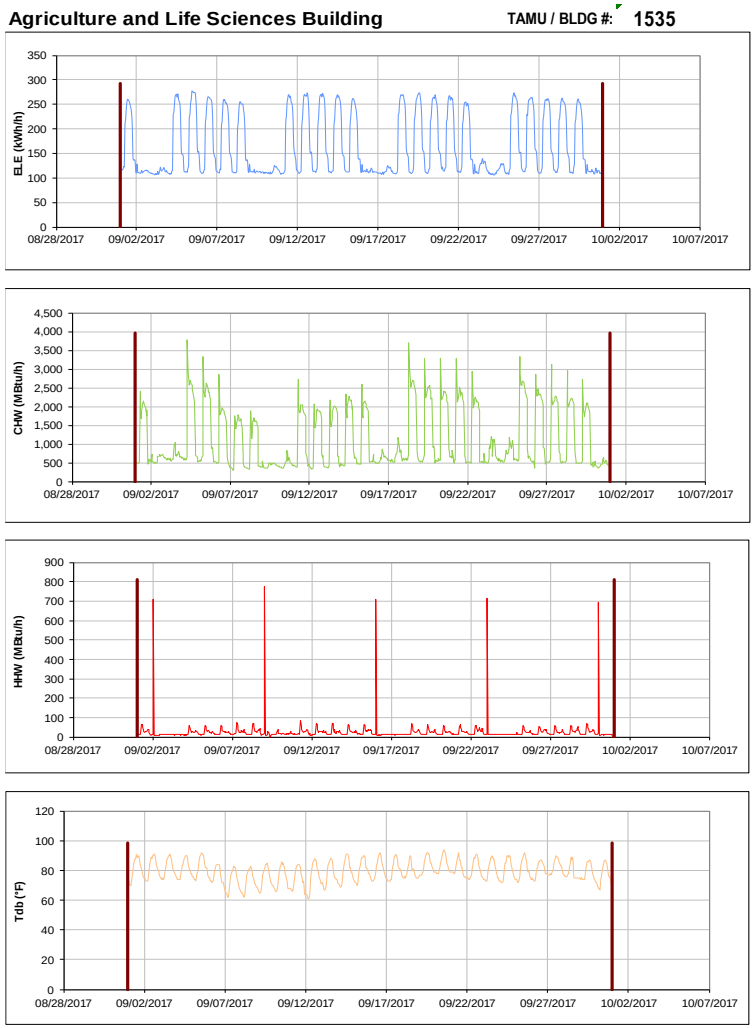


Figure III-172 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture and Life Sciences Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

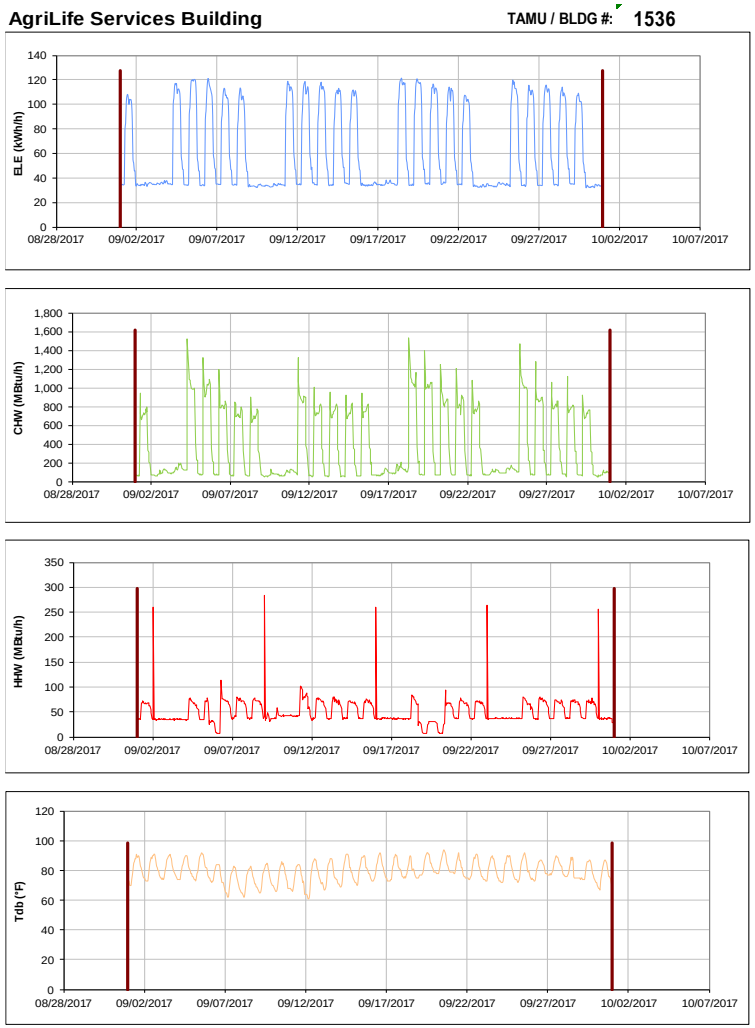


Figure III-173 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for AgriLife Services Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

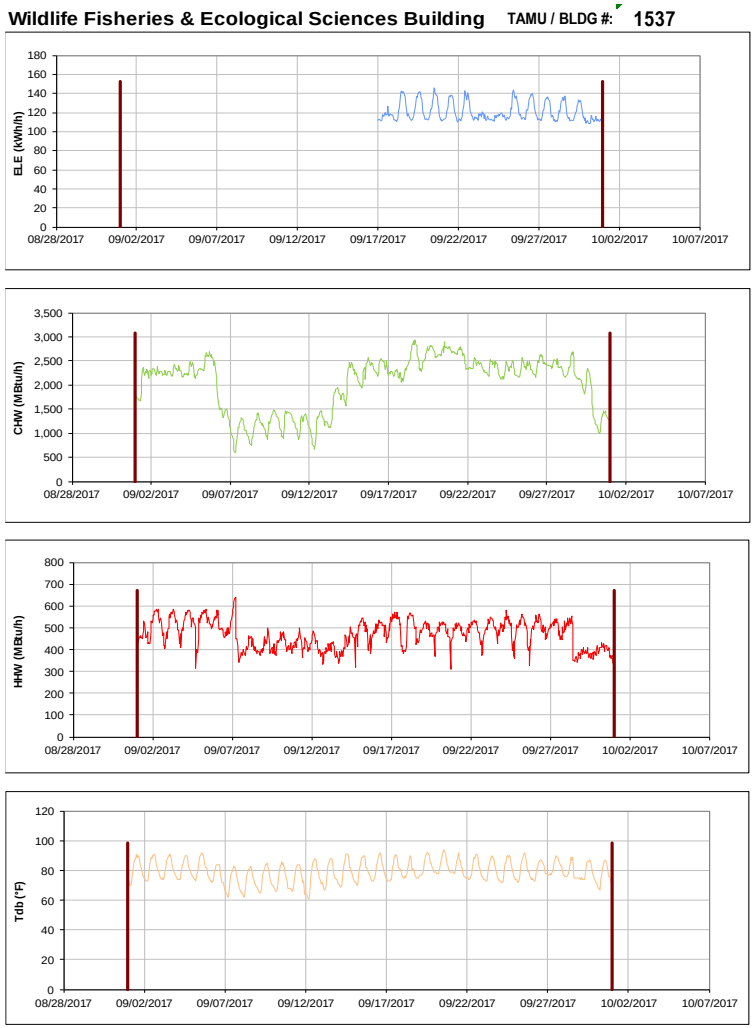


Figure III-174 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wildlife Fisheries & Ecological Sciences Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

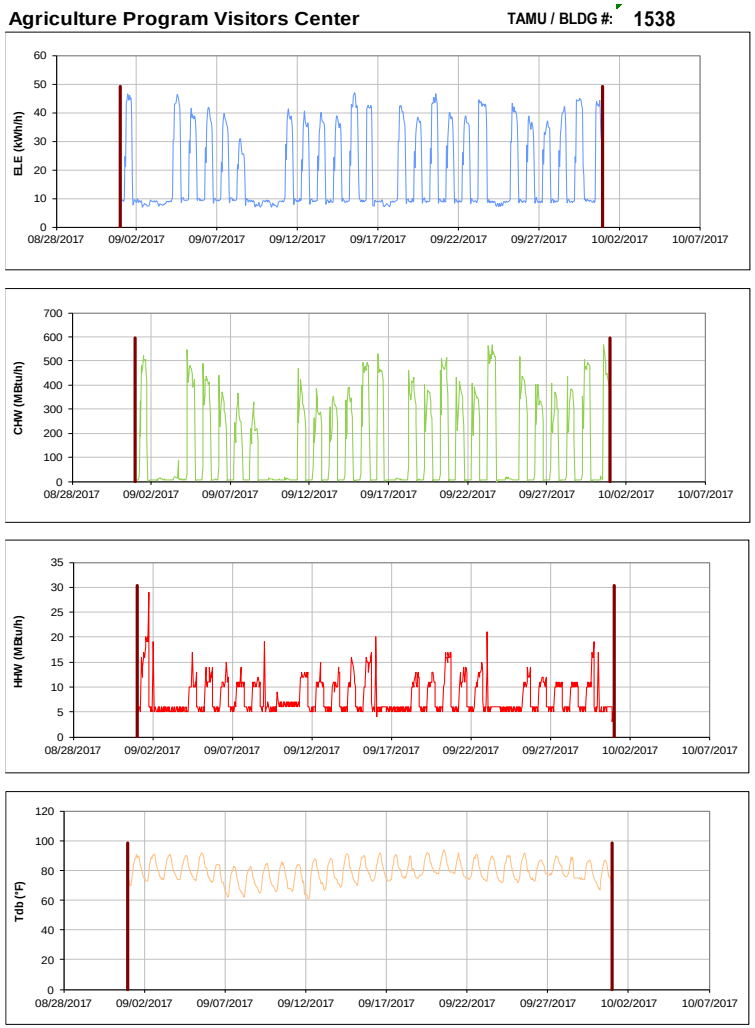


Figure III-175 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture Program Visitors Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

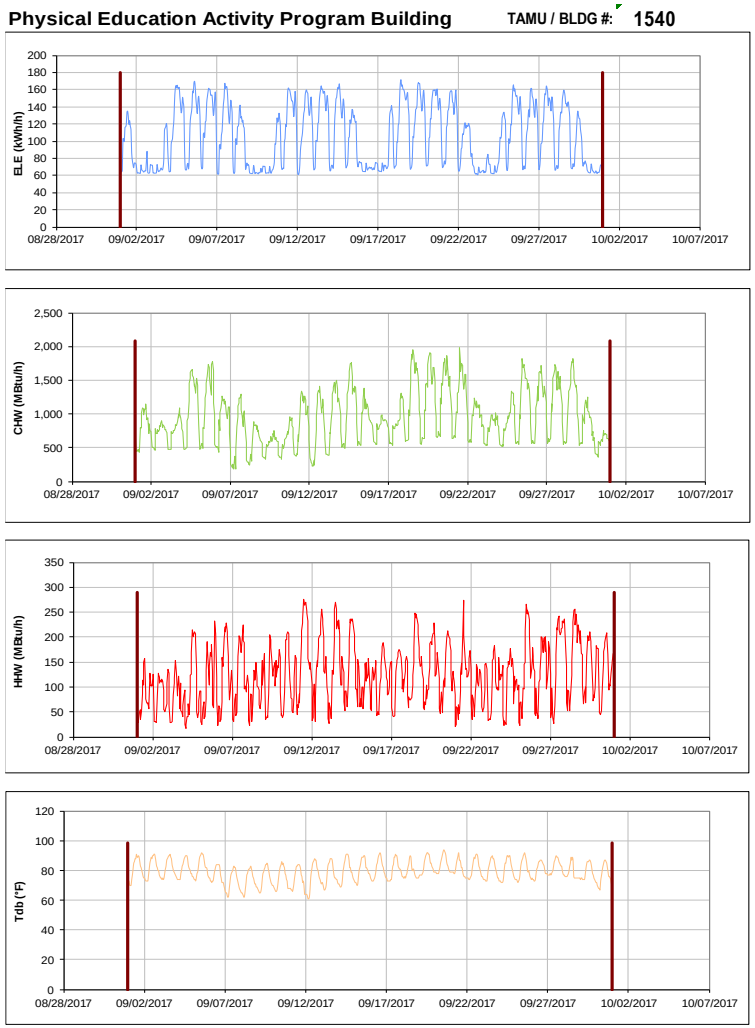


Figure III-176 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Education Activity Program Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

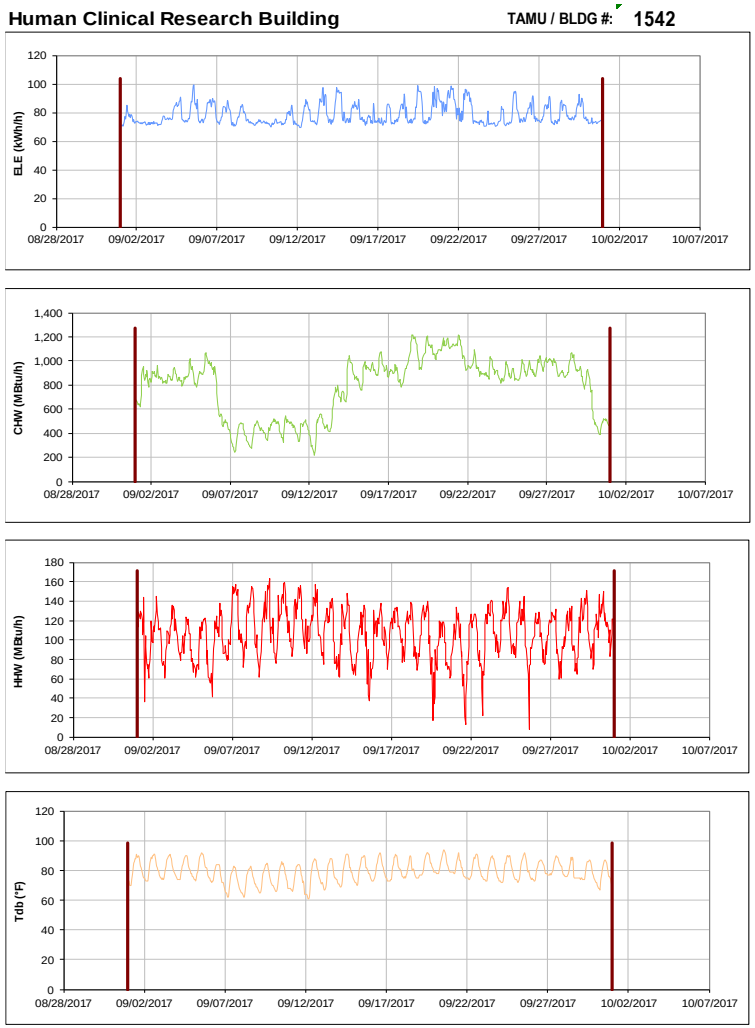


Figure III-177 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Human Clinical Research Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

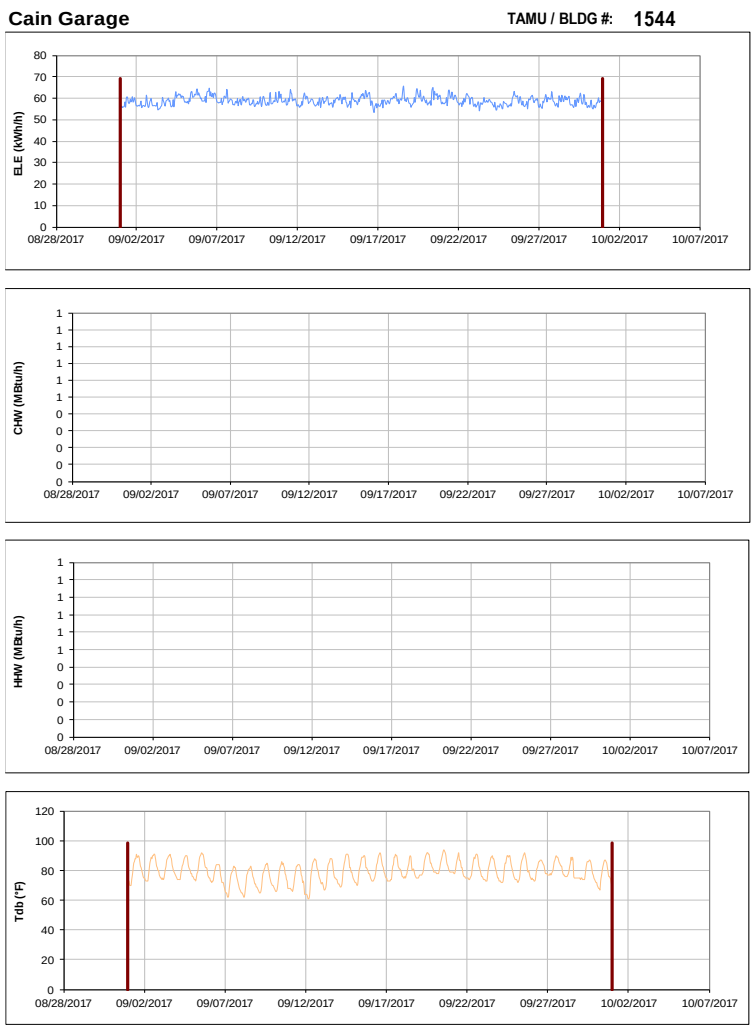


Figure III-178 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cain Garage during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

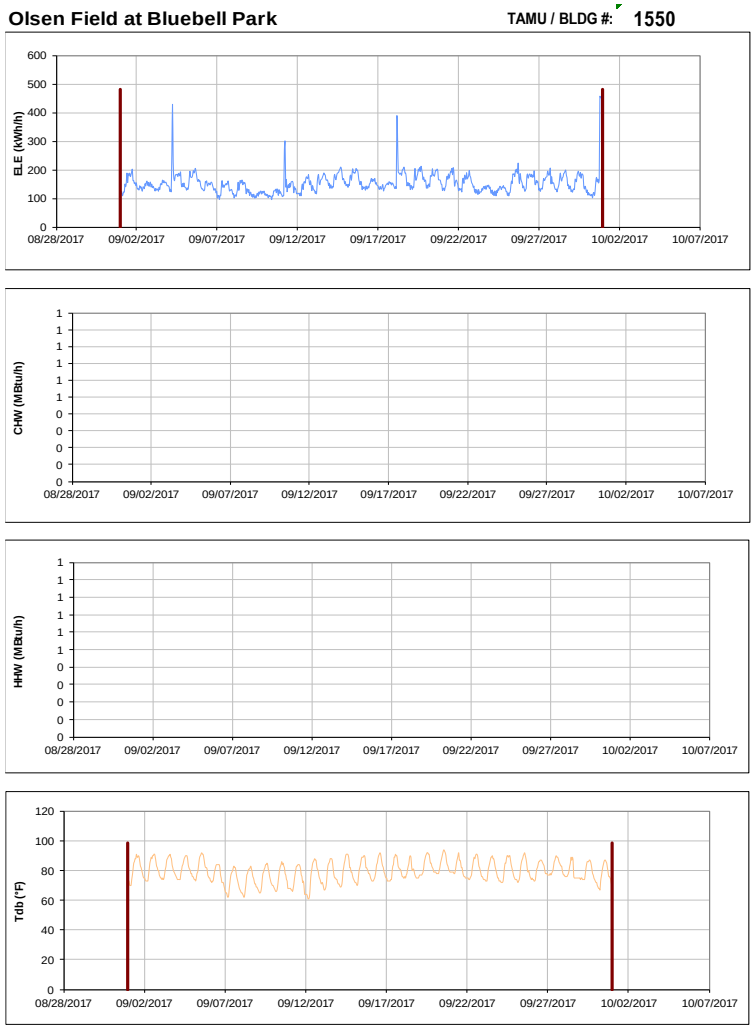


Figure III-179 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Olsen Field at Bluebell Park during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

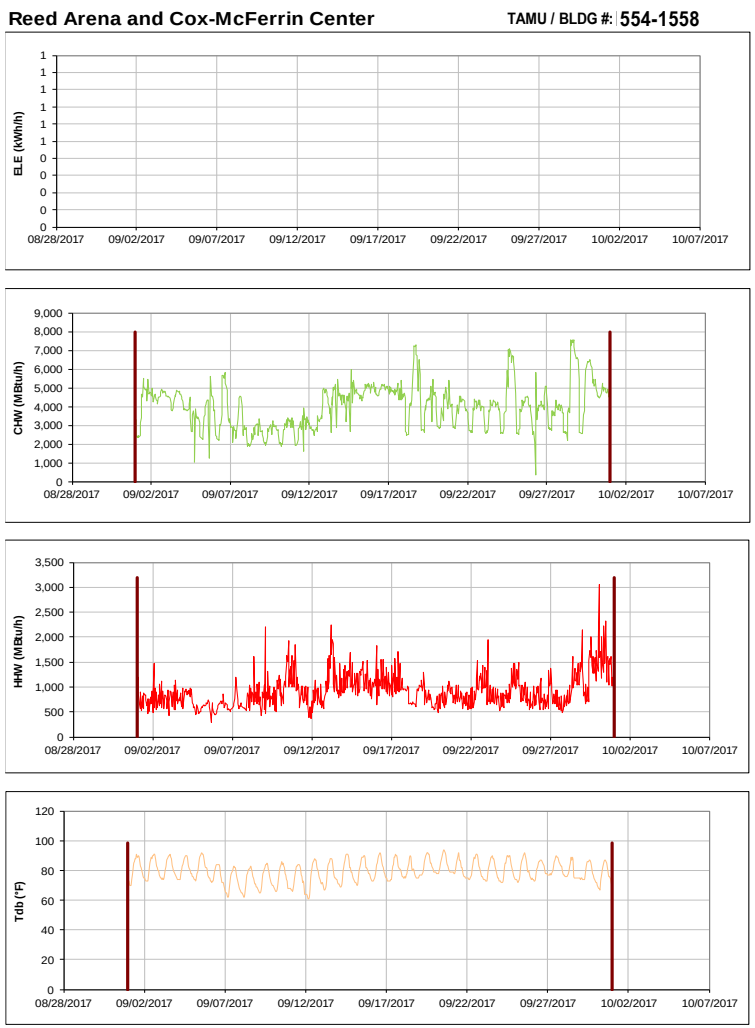


Figure III-180 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed Arena and Cox-McFerrin Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

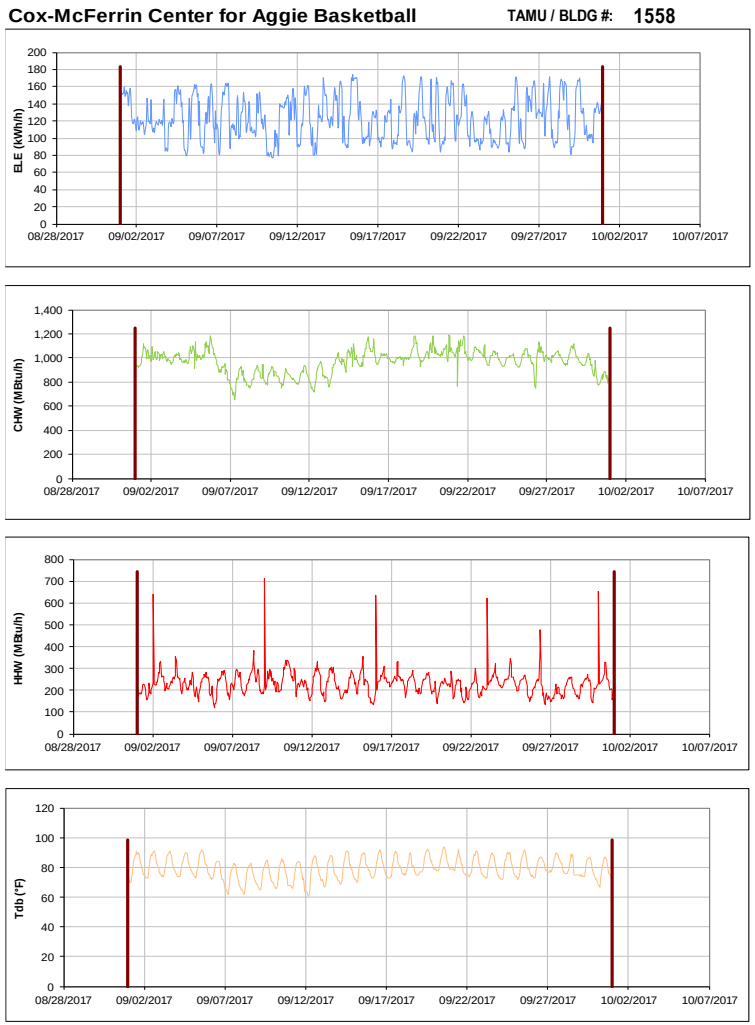


Figure III-181 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cox-McFerrin Center for Aggie Basketball during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

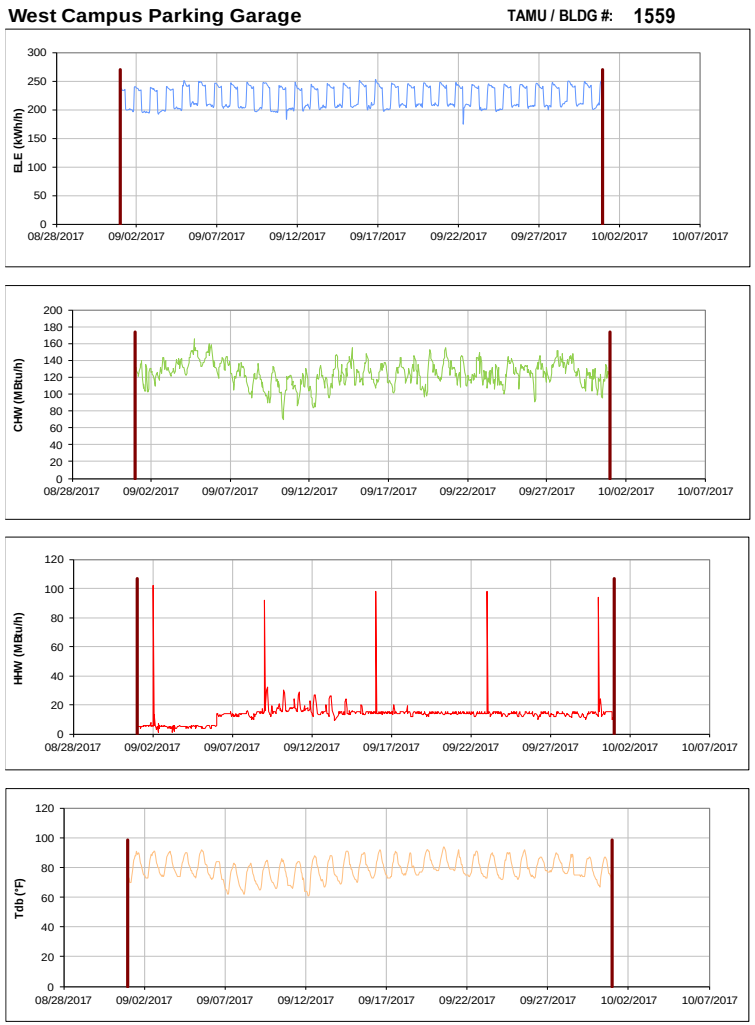


Figure III-182 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Parking Garage during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

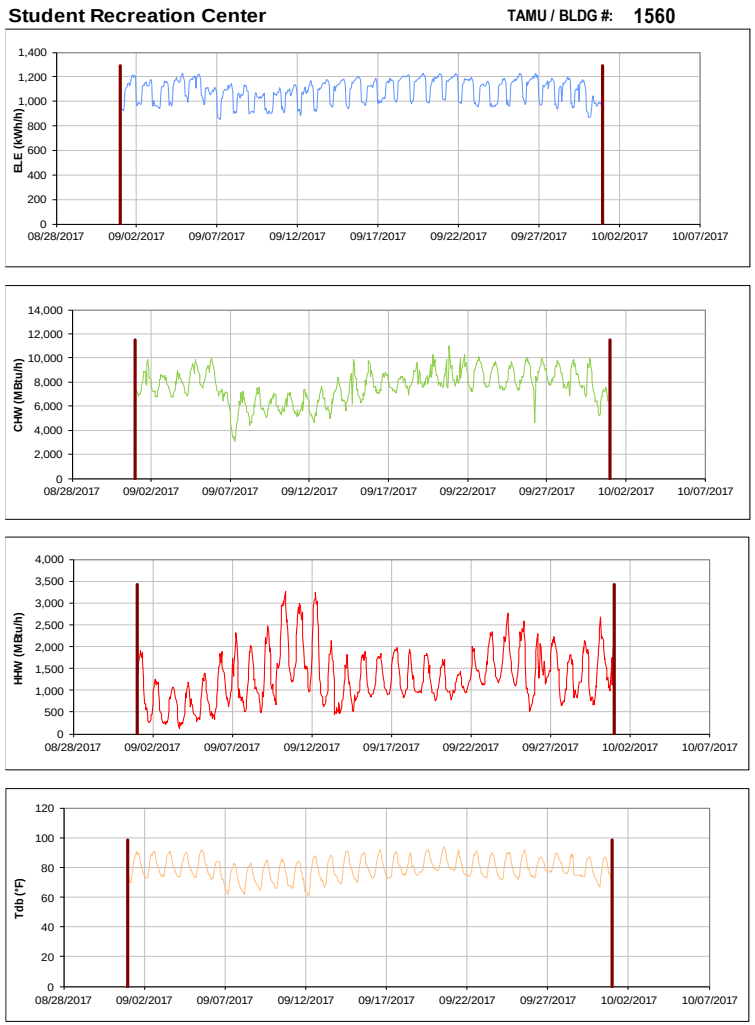


Figure III-183 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Student Recreation Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

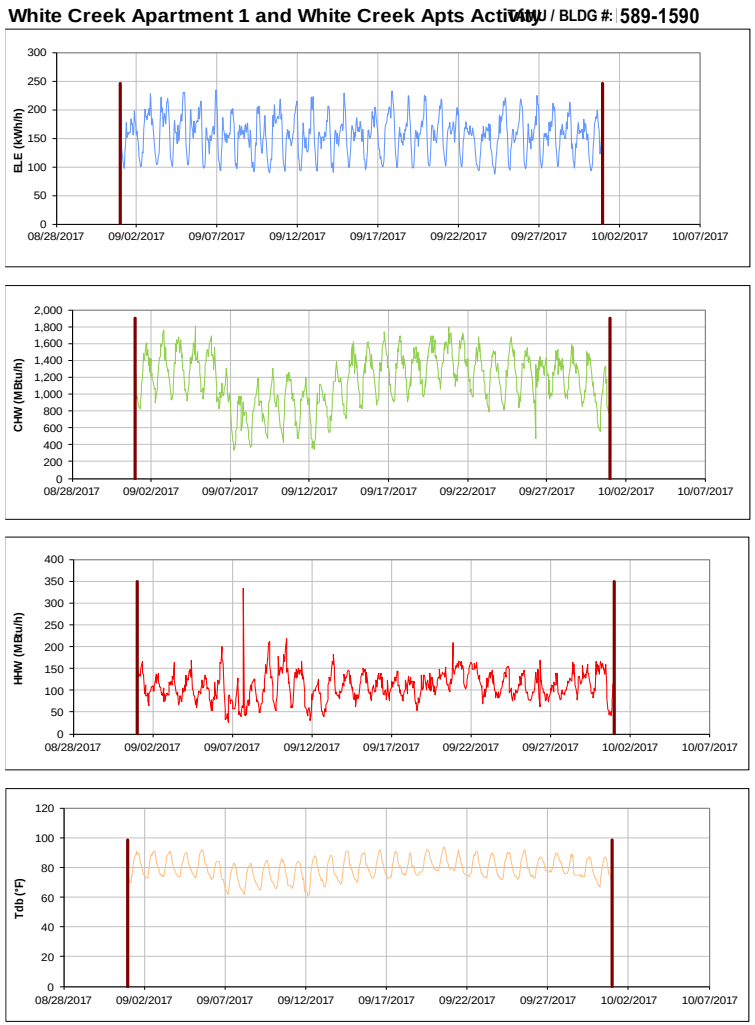


Figure III-184 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 1 and White Creek Apts Activity Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station

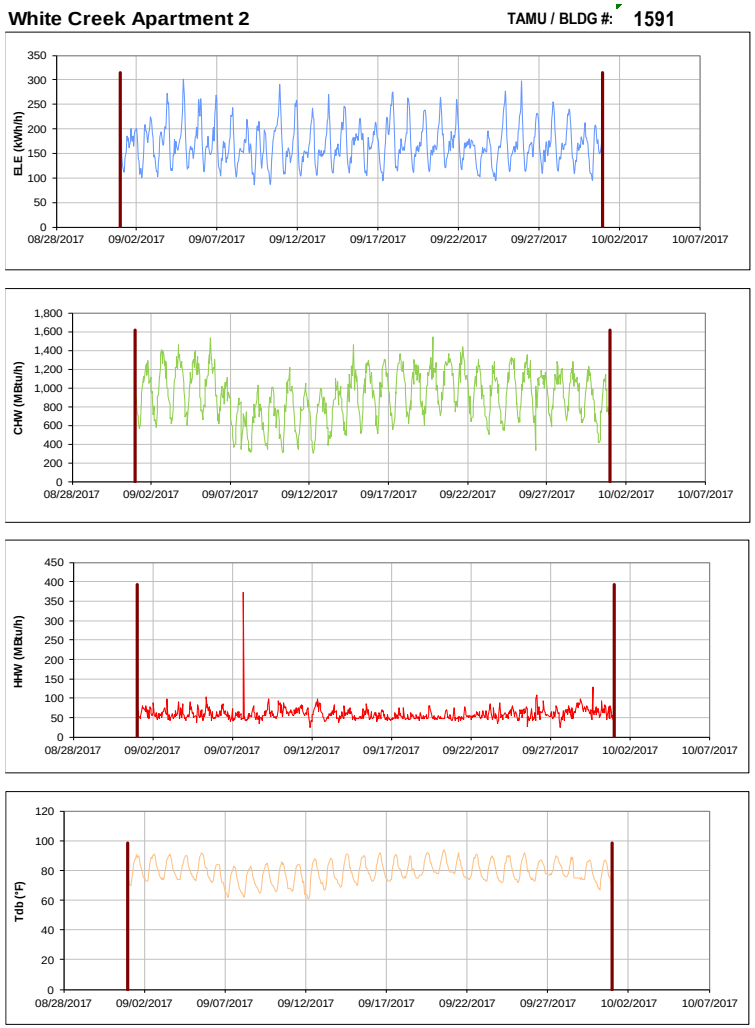


Figure III-185 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 2 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

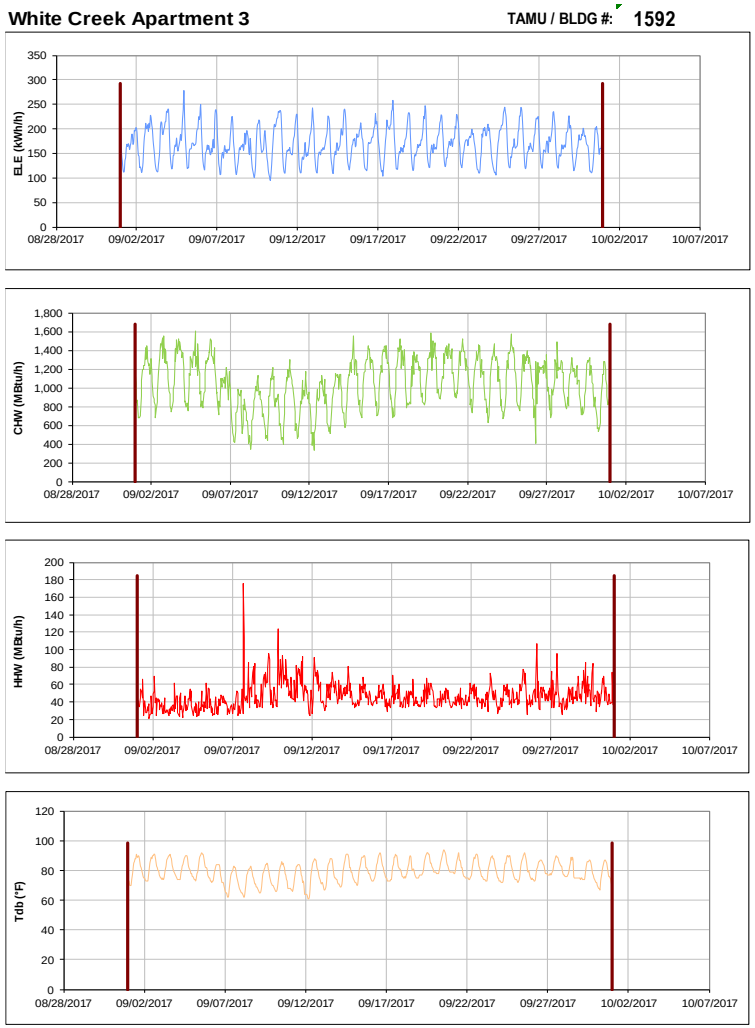


Figure III-186 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 3 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

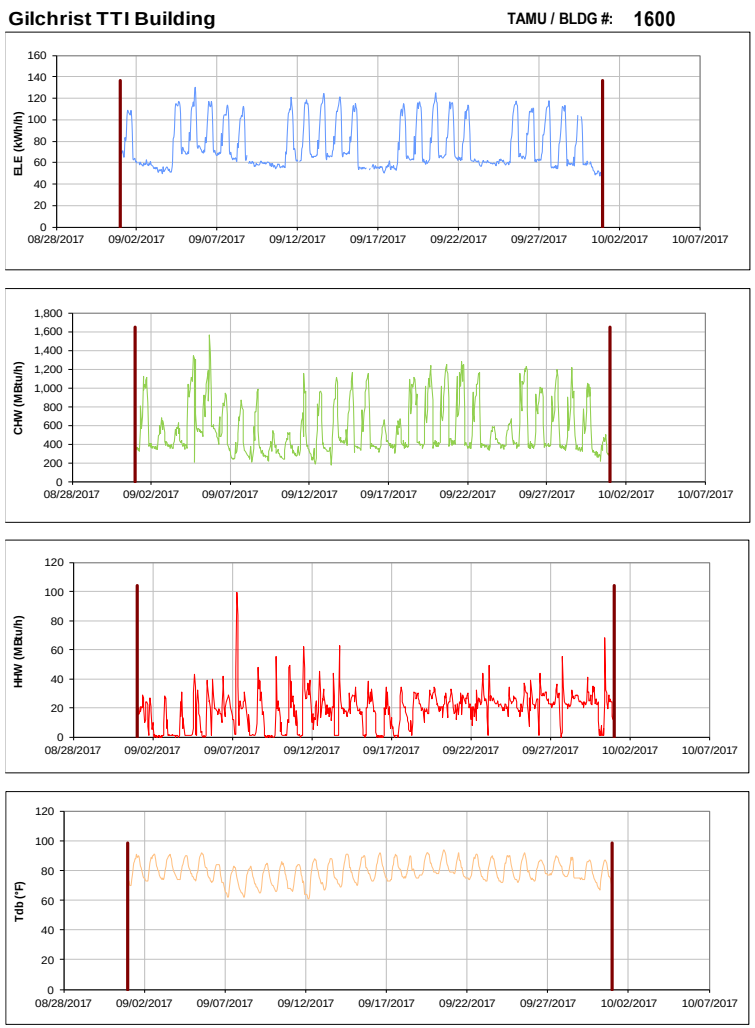


Figure III-187 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gilchrist TTI Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

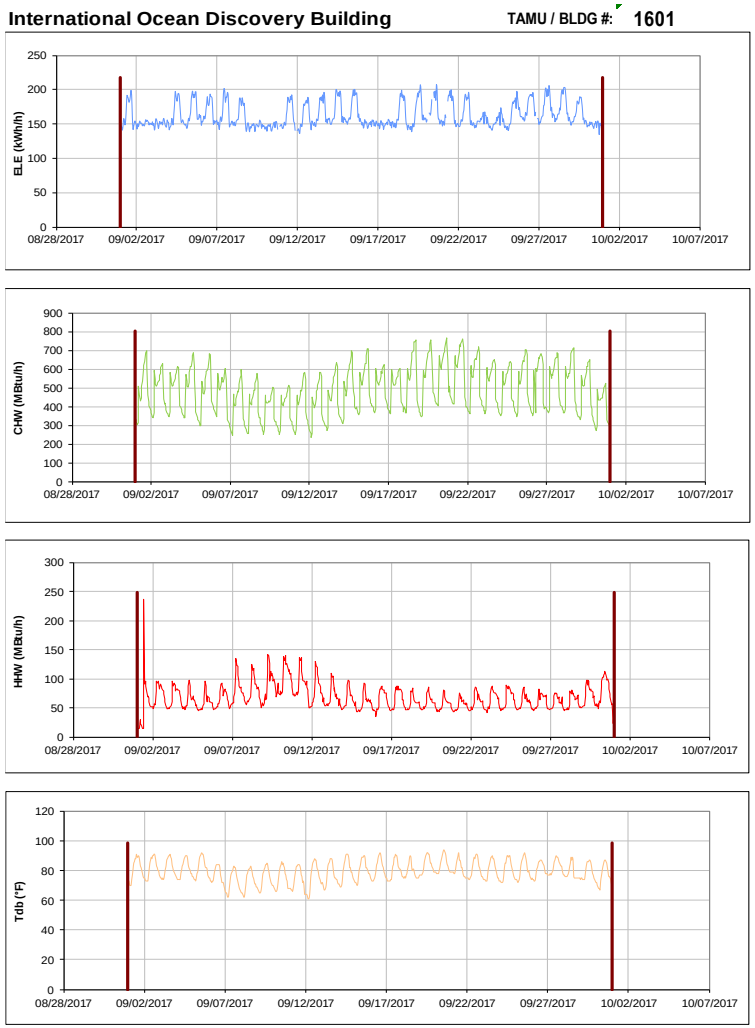


Figure III-188 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for International Ocean Discovery Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

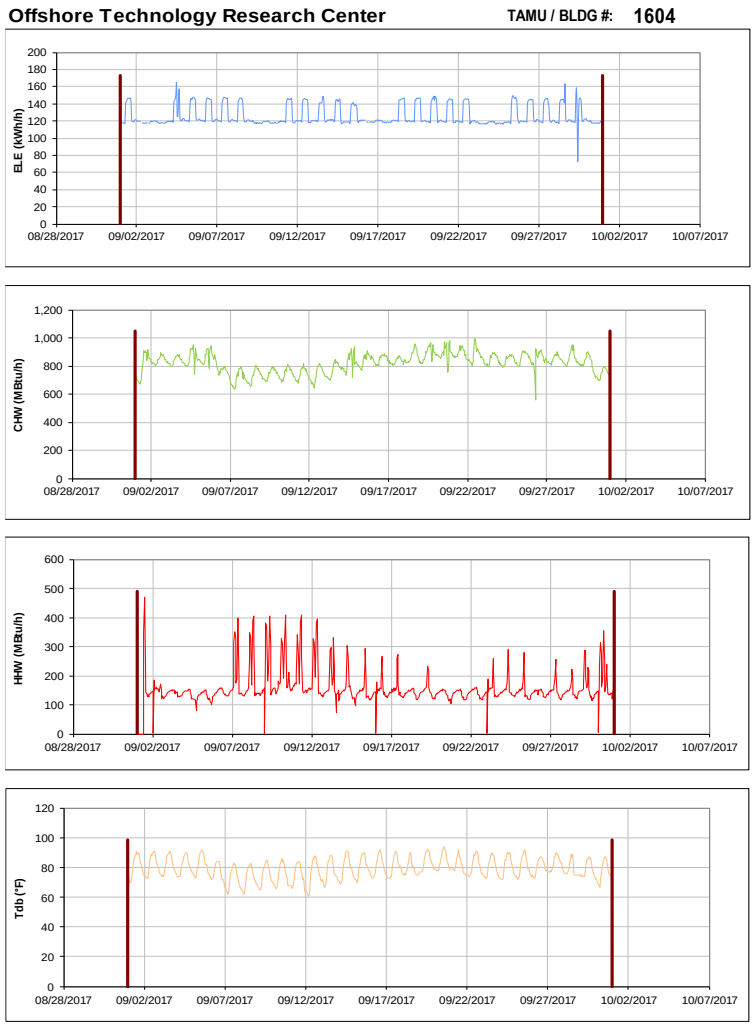


Figure III-189 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Offshore Technology Research Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

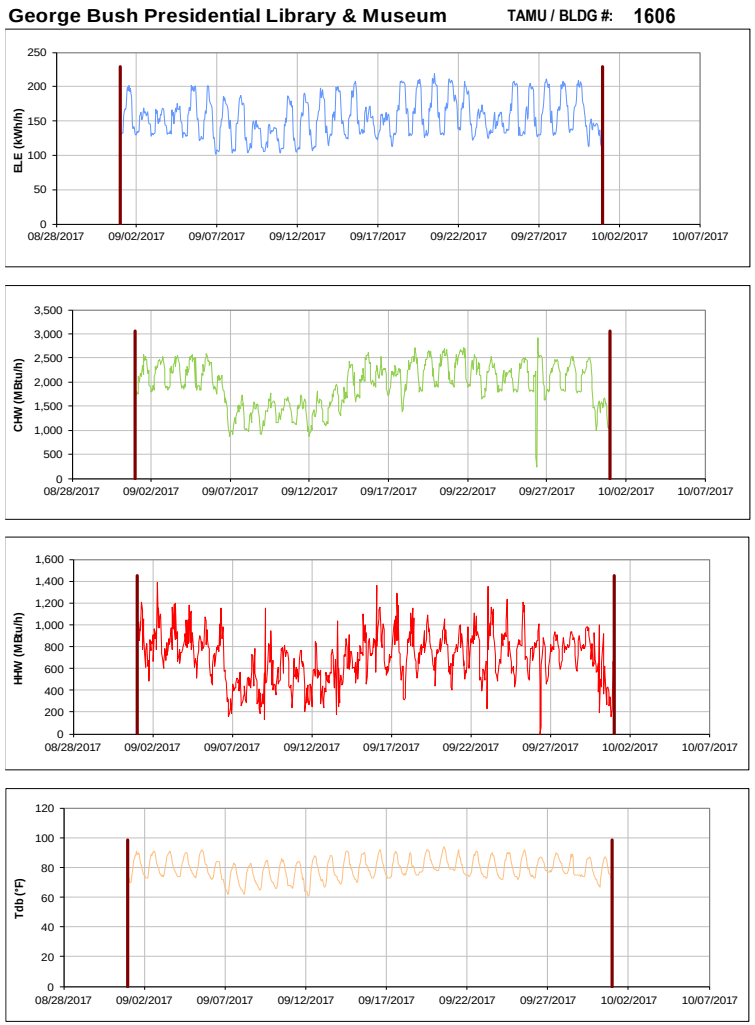


Figure III-190 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for George Bush Presidential Library & Museum during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

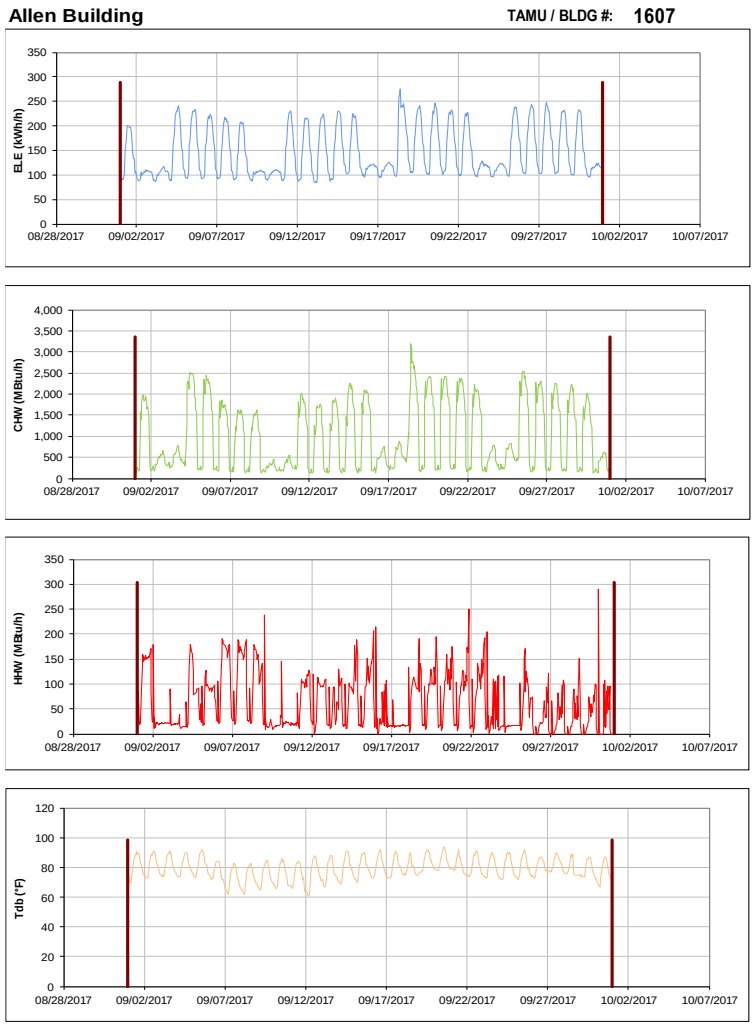


Figure III-191 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Allen Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

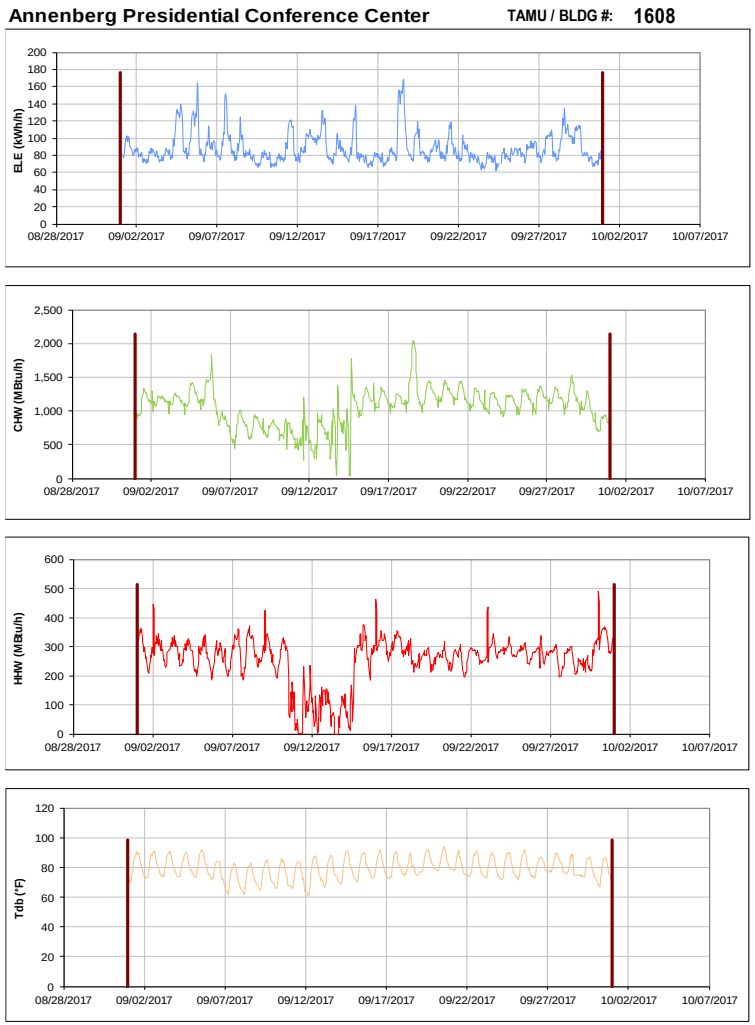


Figure III-192 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Annenberg Presidential Conference Center during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

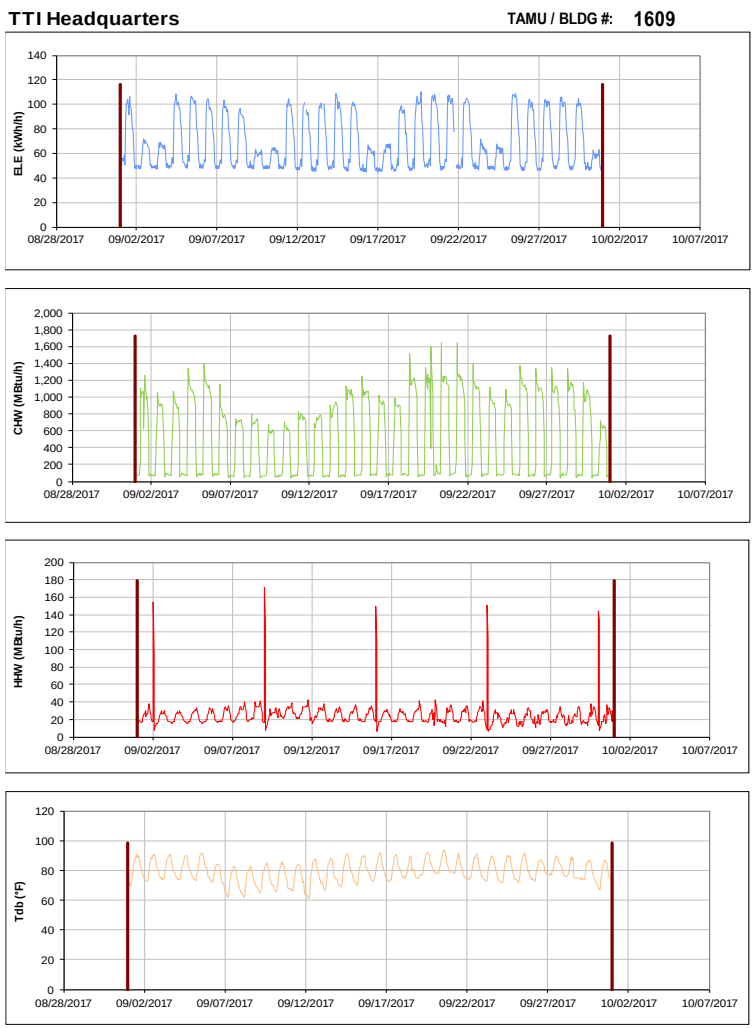


Figure III-193 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TTI Headquarters during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

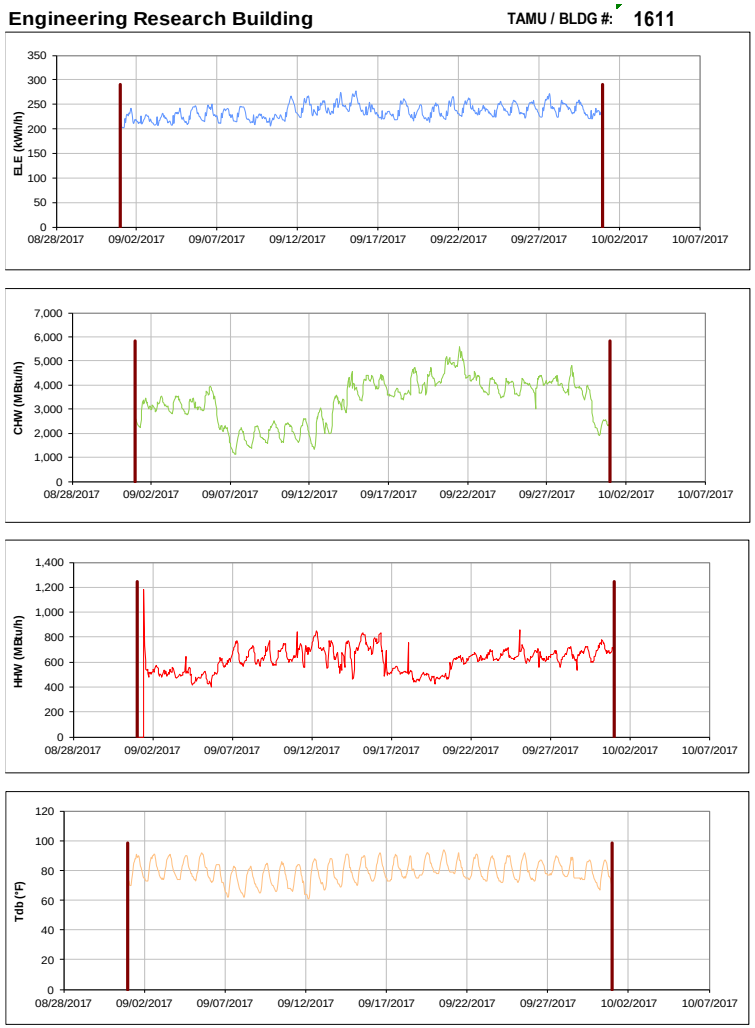


Figure III-194 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Research Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

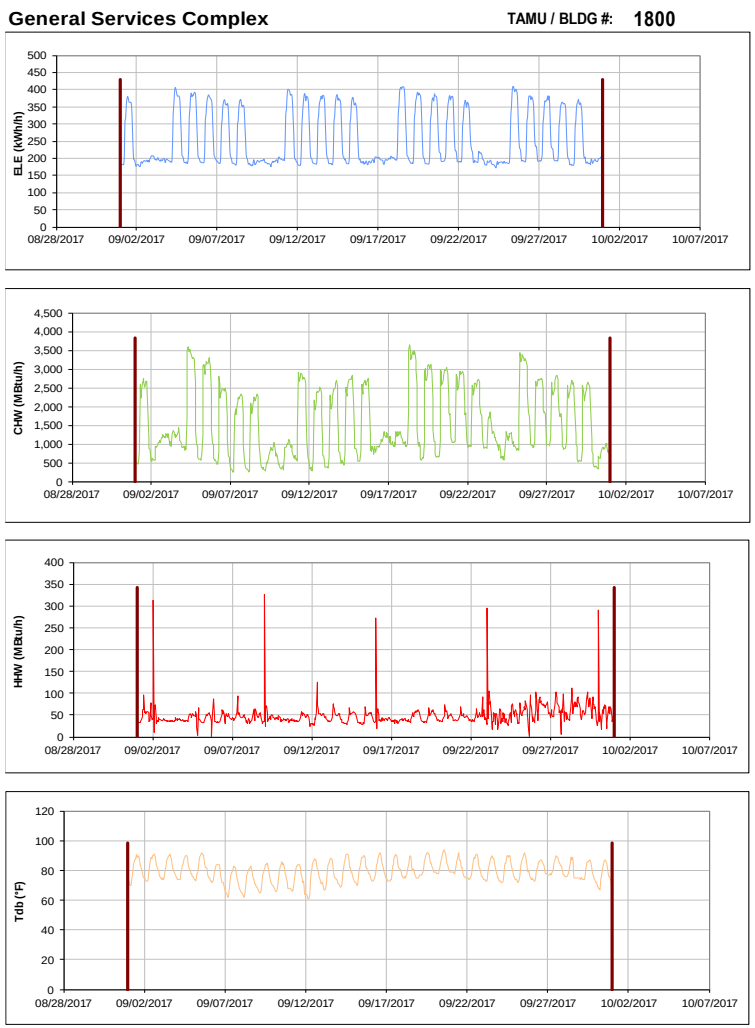


Figure III-195 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for General Services Complex during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

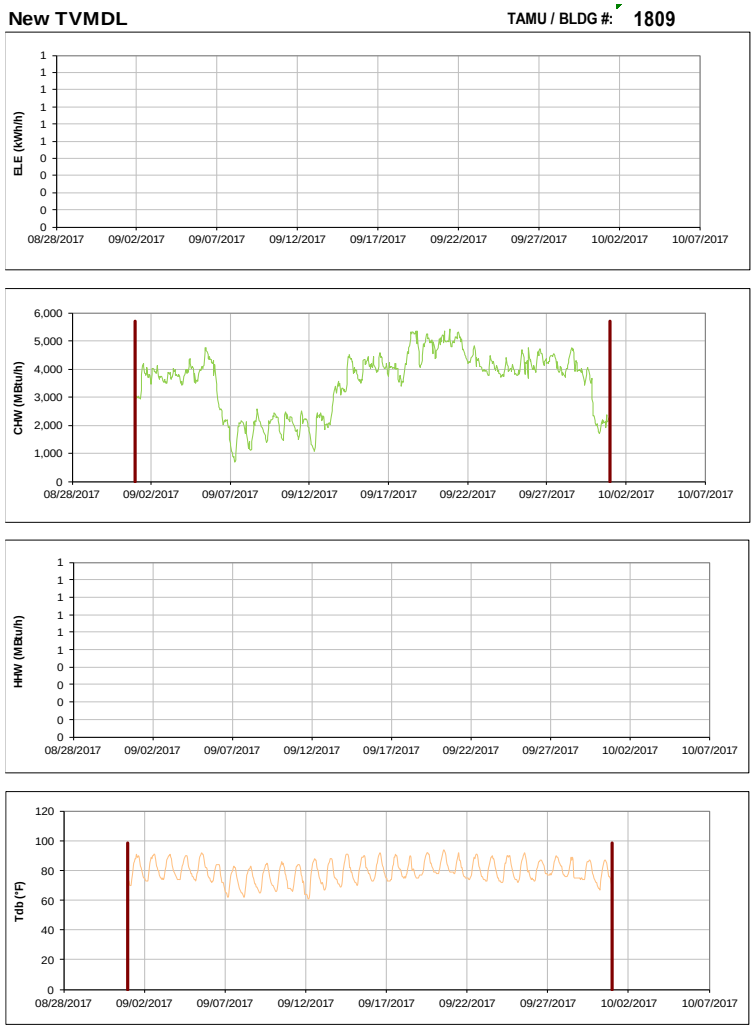


Figure III-196 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for New TVMDL during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

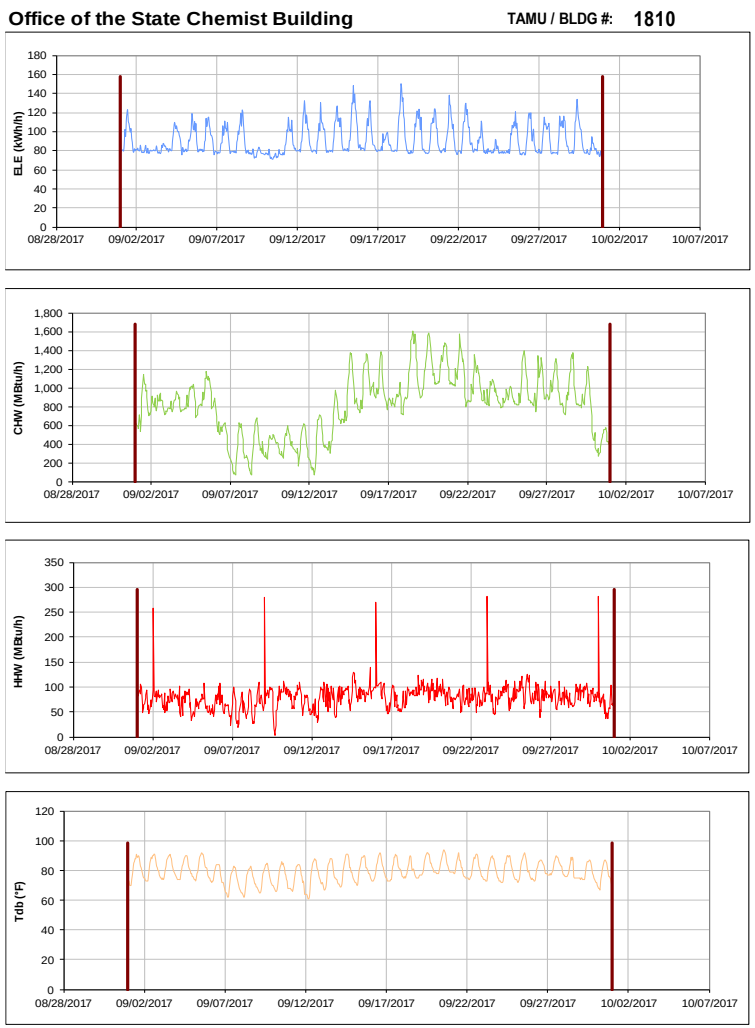


Figure III-197 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Office of the State Chemist Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

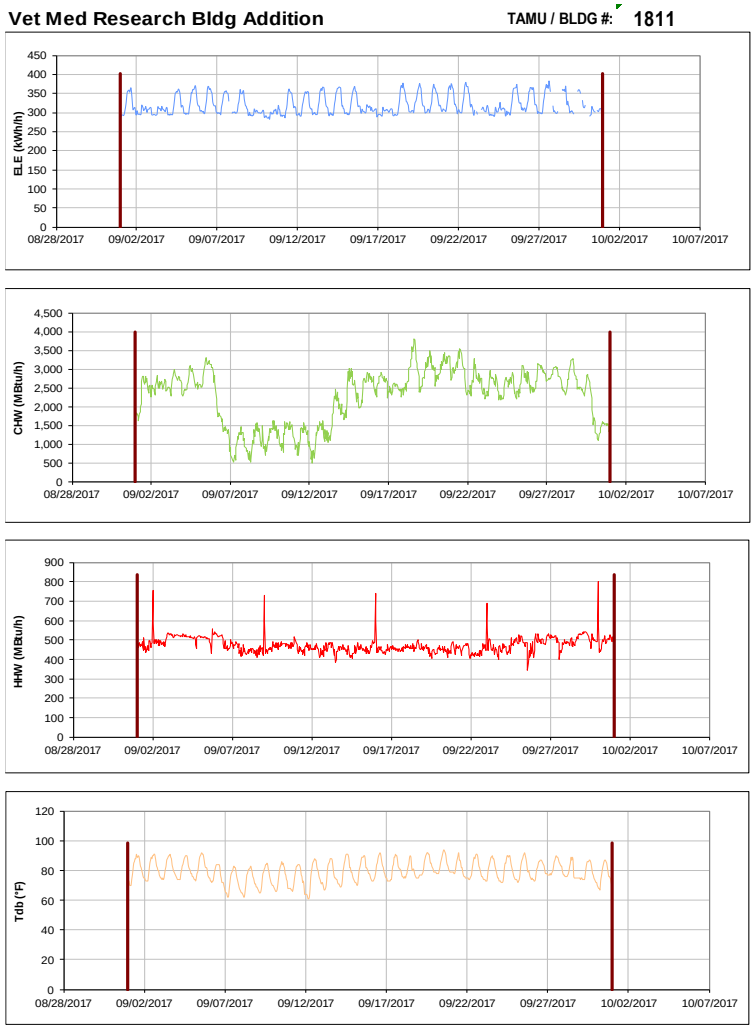


Figure III-198 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vet Med Research Bldg Addition during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

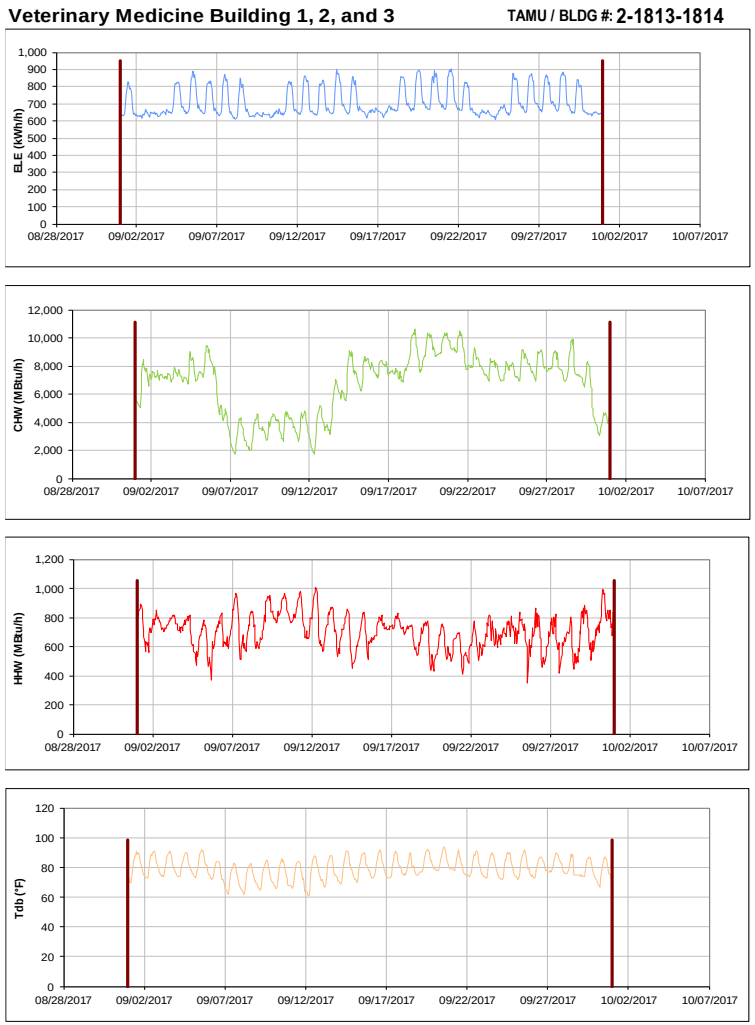


Figure III-199 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Building 1, 2, and 3 during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

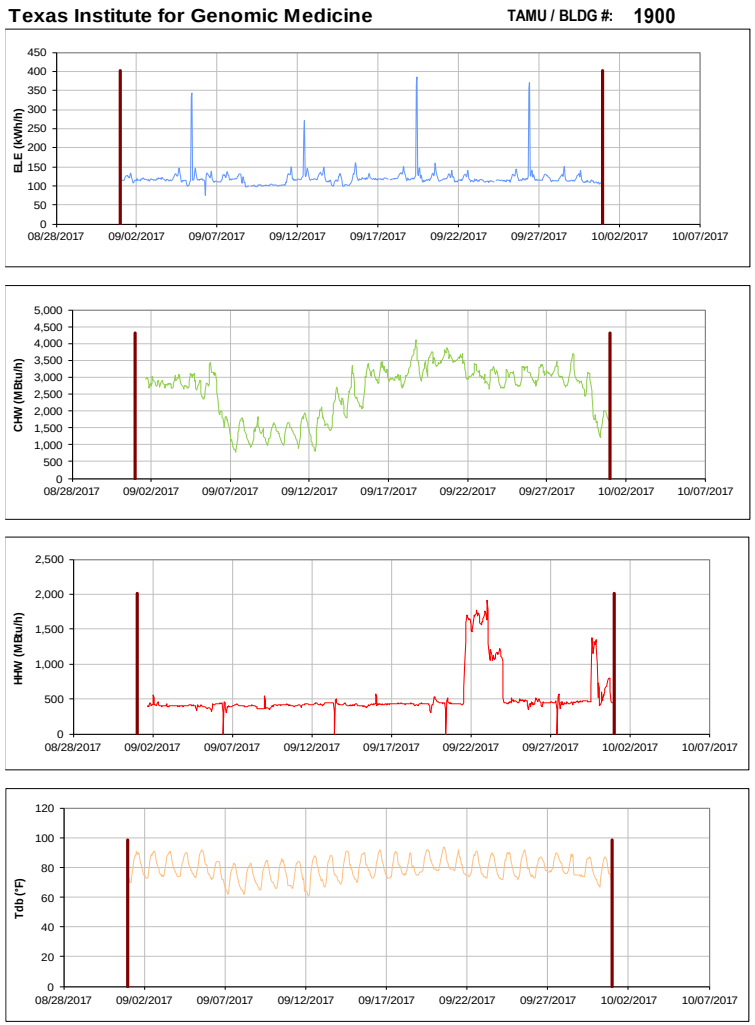


Figure III-200 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Institute for Genomic Medicine during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

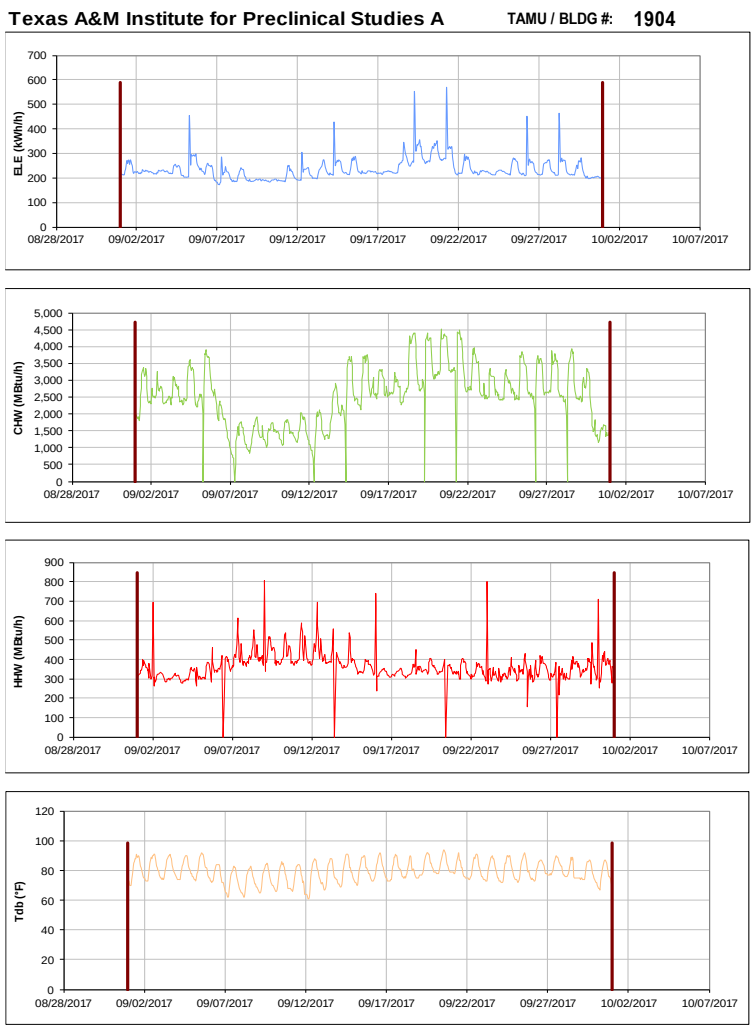


Figure III-201 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas A&M Institute for Preclinical Studies A during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

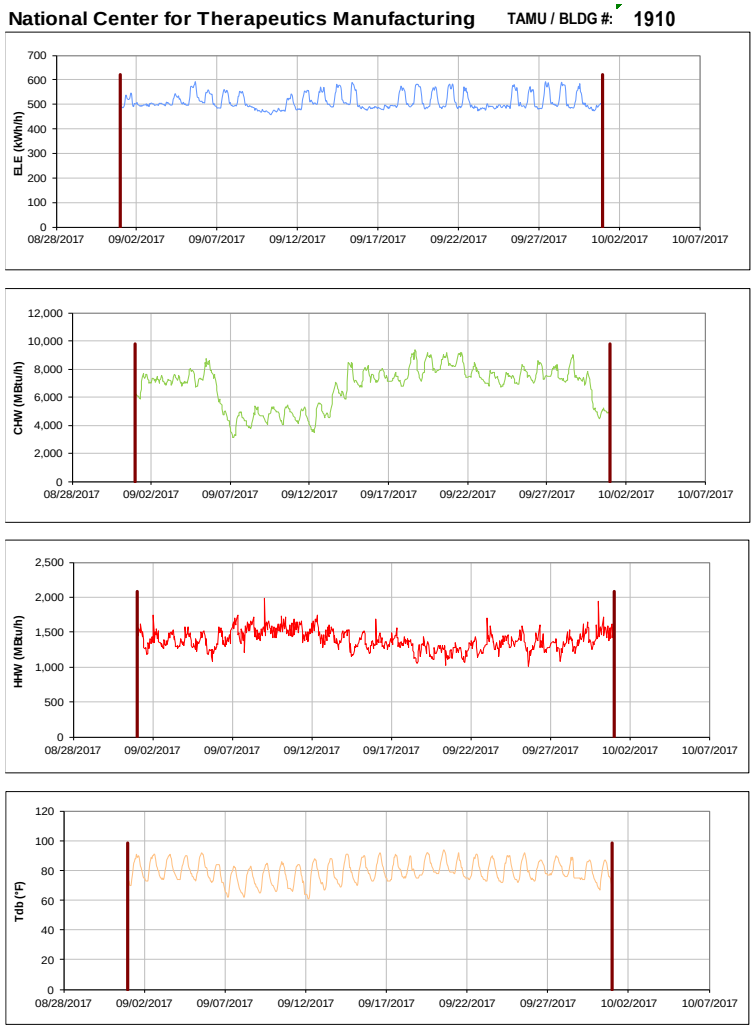


Figure III-202 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for National Center for Therapeutics Manufacturing during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

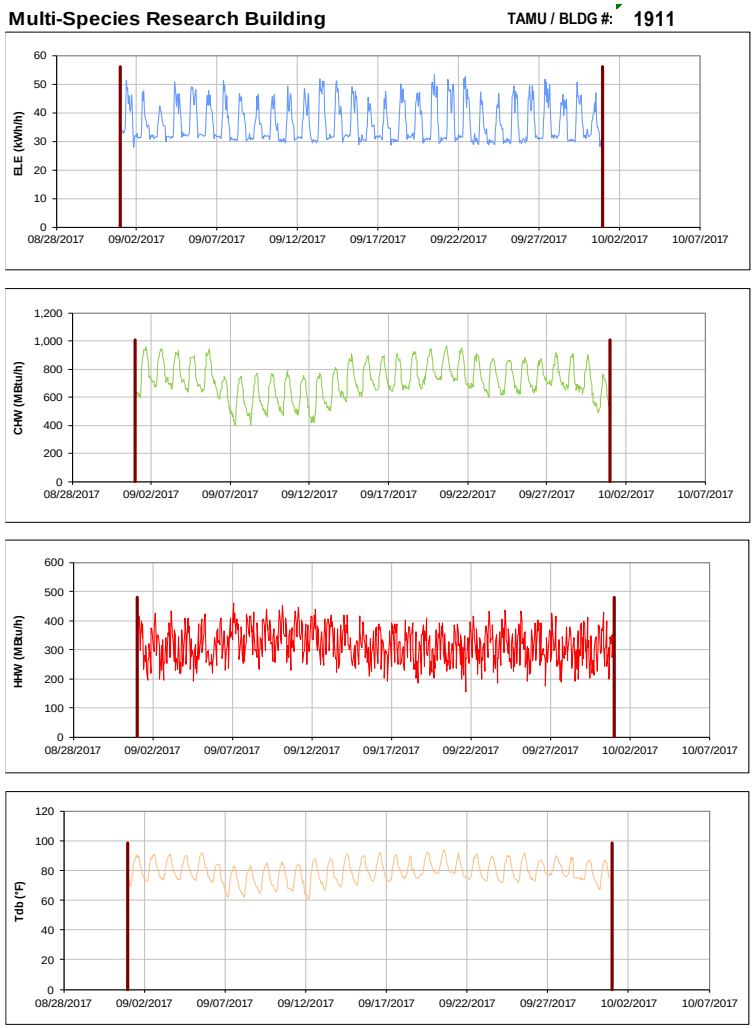


Figure III-203 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Multi-Species Research Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

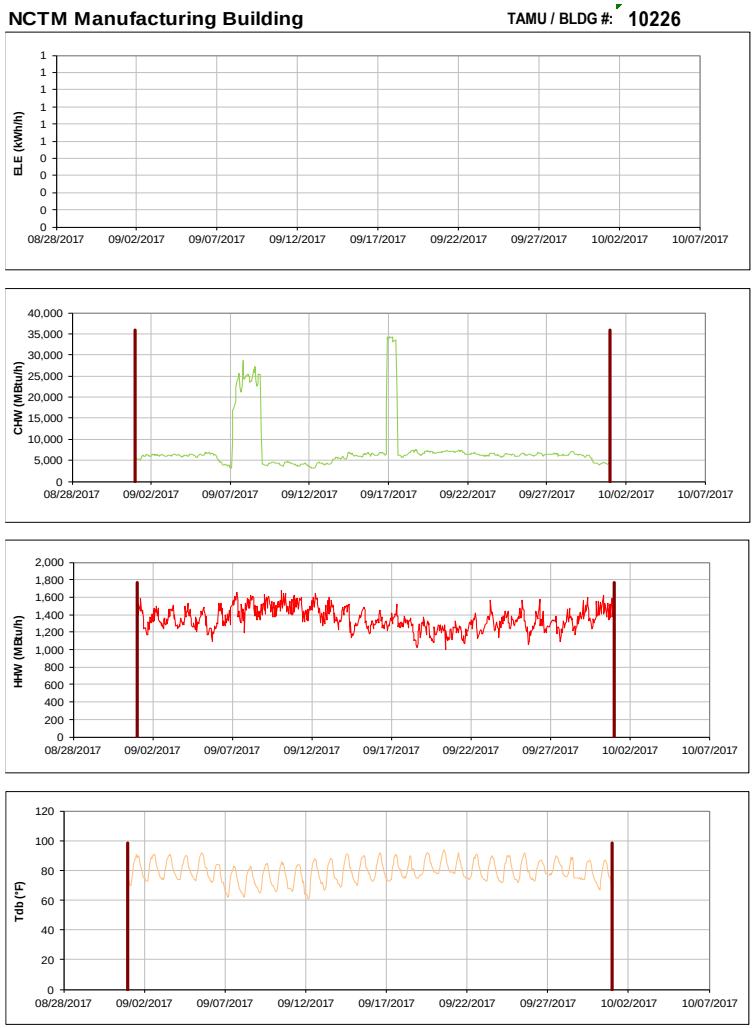


Figure III-204 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for NCTM Manufacturing Building during the Month of September 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

IV. Energy Balance Plots for September 2017 Consumption

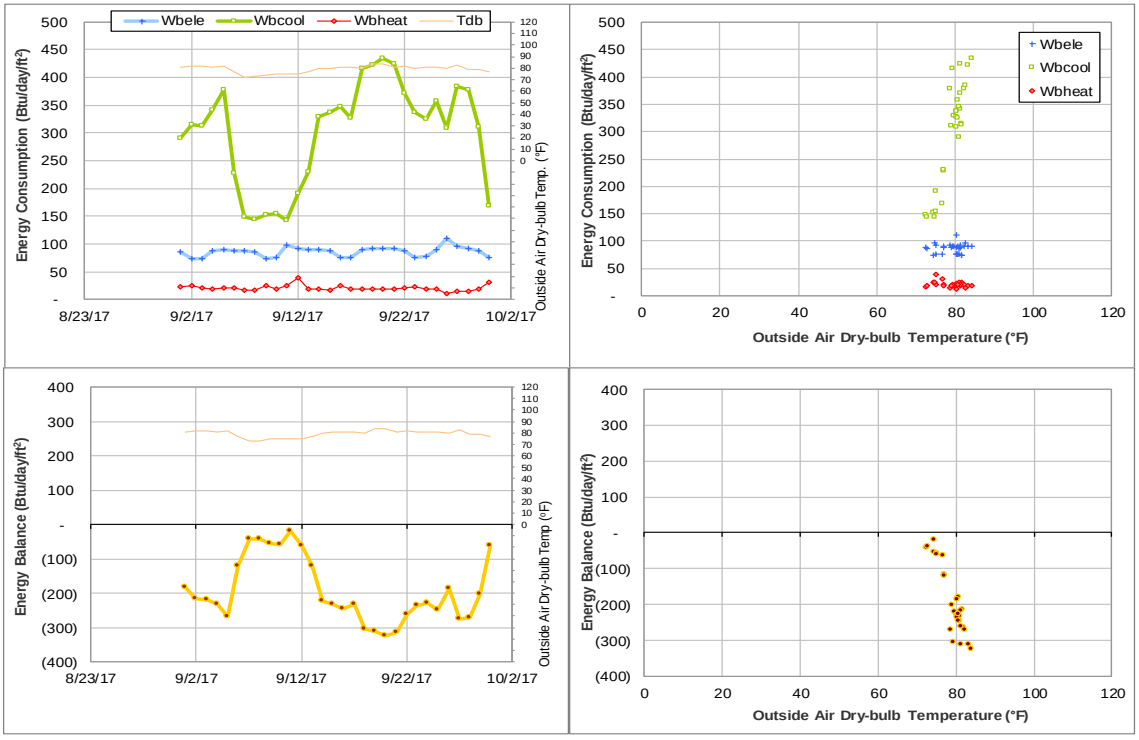


Figure IV-1 Emerging Technologies Building TAMU BLDG # 270 Energy Balance Plot during September 2017

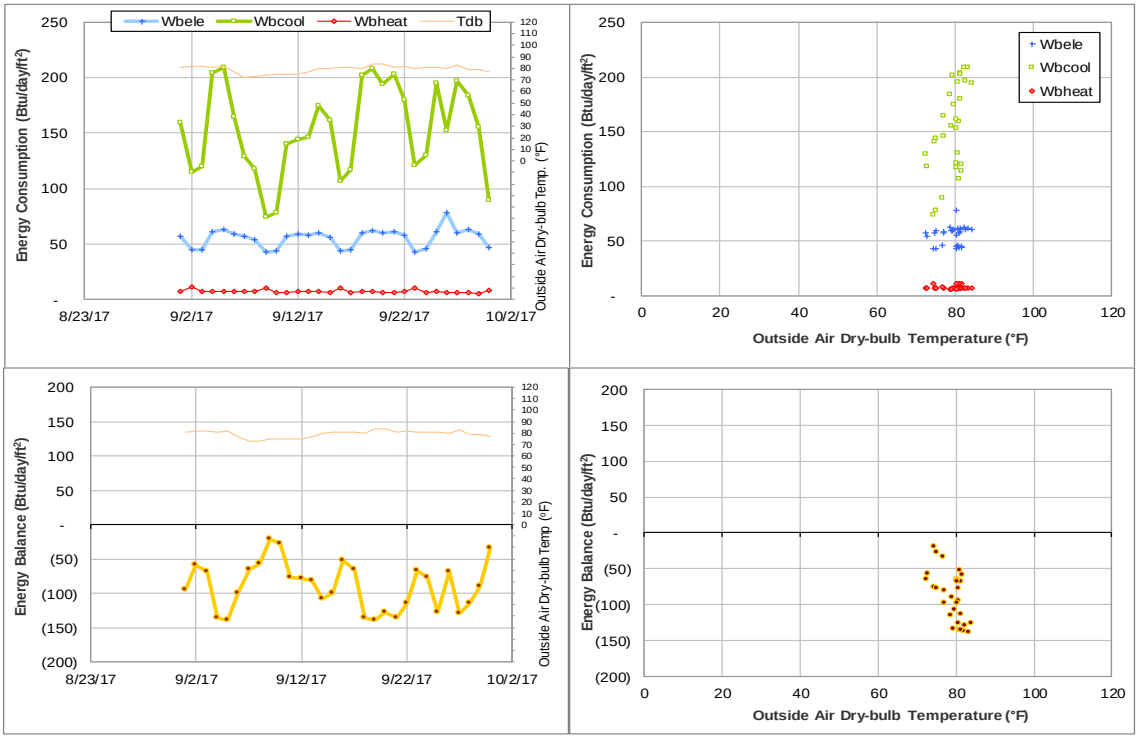


Figure IV-2 Liberal Arts and Arts & Humanities Building TAMU BLDG # 275 Energy Balance Plot during September 2017

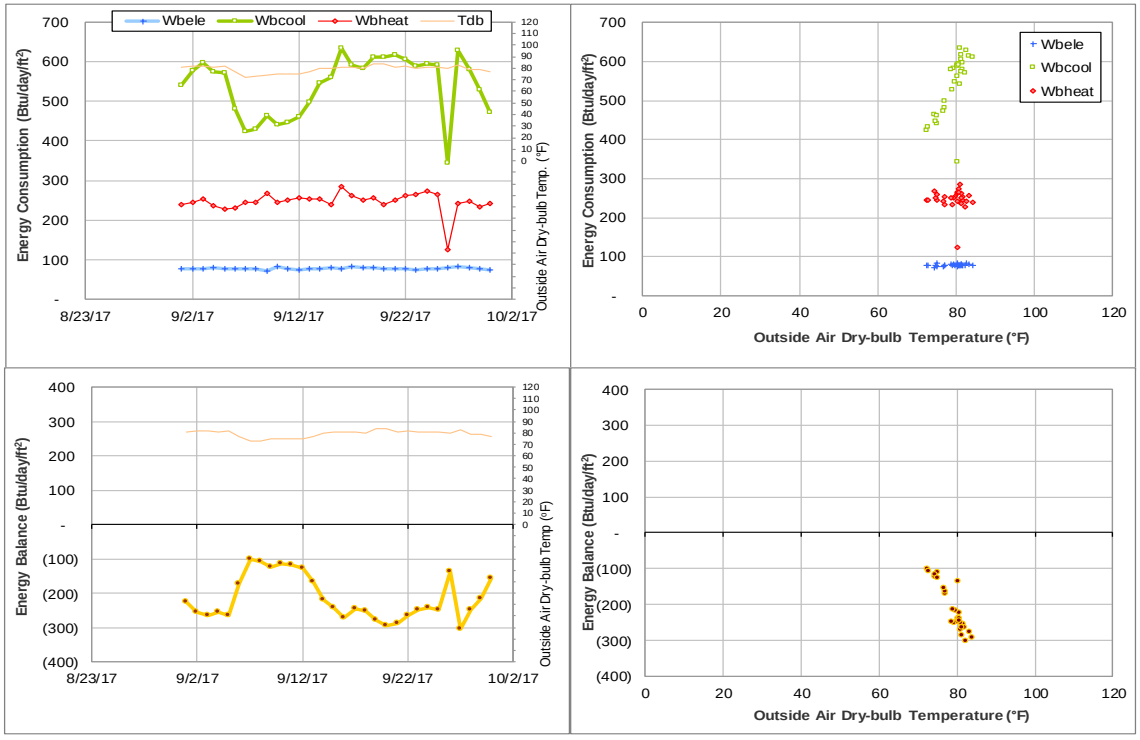


Figure IV-3 Wells Residence Hall TAMU BLDG # 290 Energy Balance Plot during September 2017

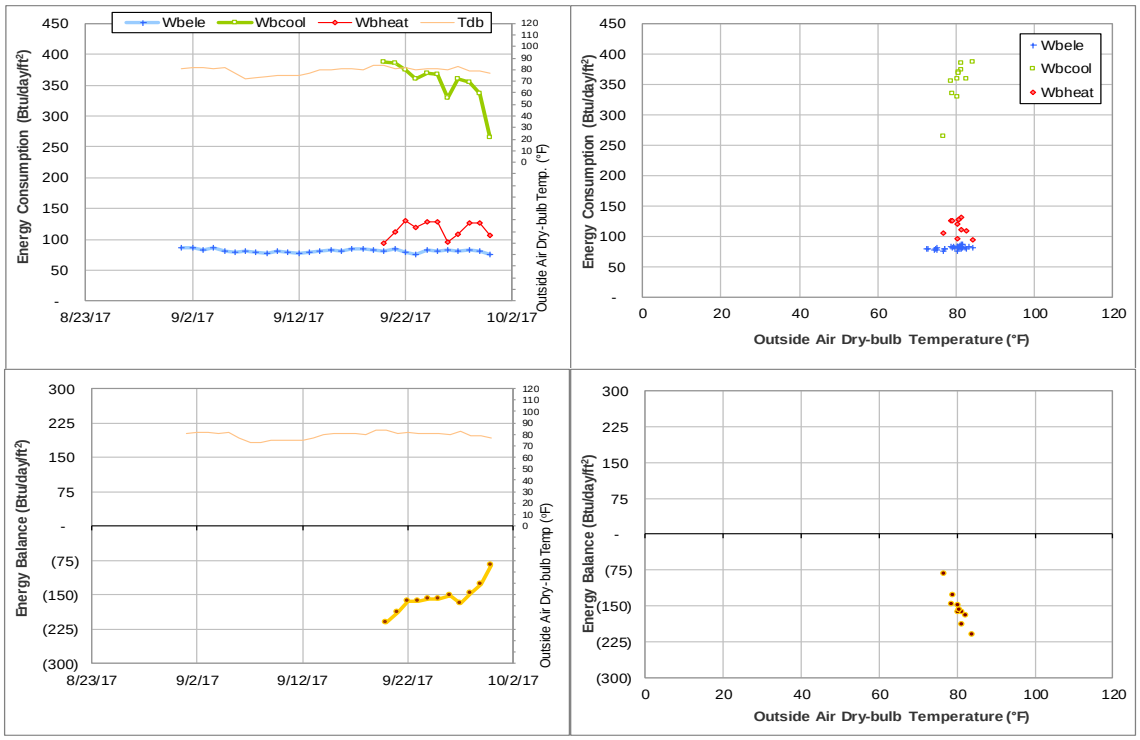


Figure IV-4 Rudder Residence Hall TAMU BLDG # 291 Energy Balance Plot during September 2017

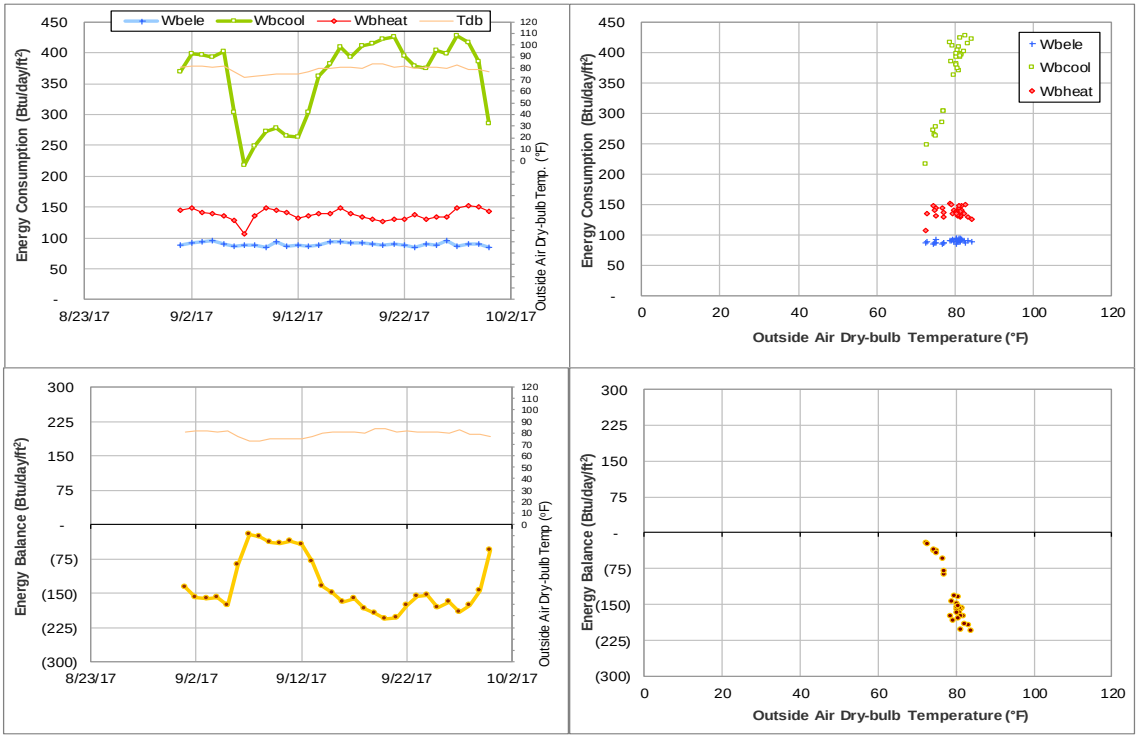


Figure IV-5 Eppright Residence Hall TAMU BLDG # 292 Energy Balance Plot during September 2017

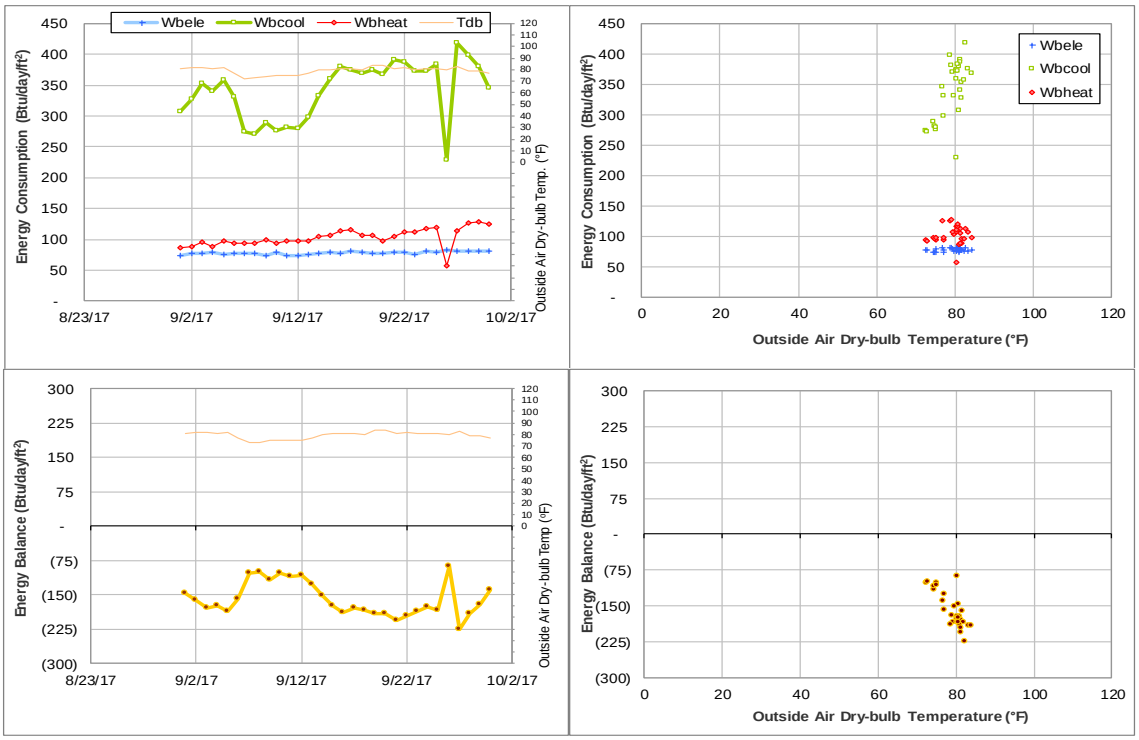


Figure IV-6 Appelt Residence Hall TAMU BLDG # 293 Energy Balance Plot during September 2017

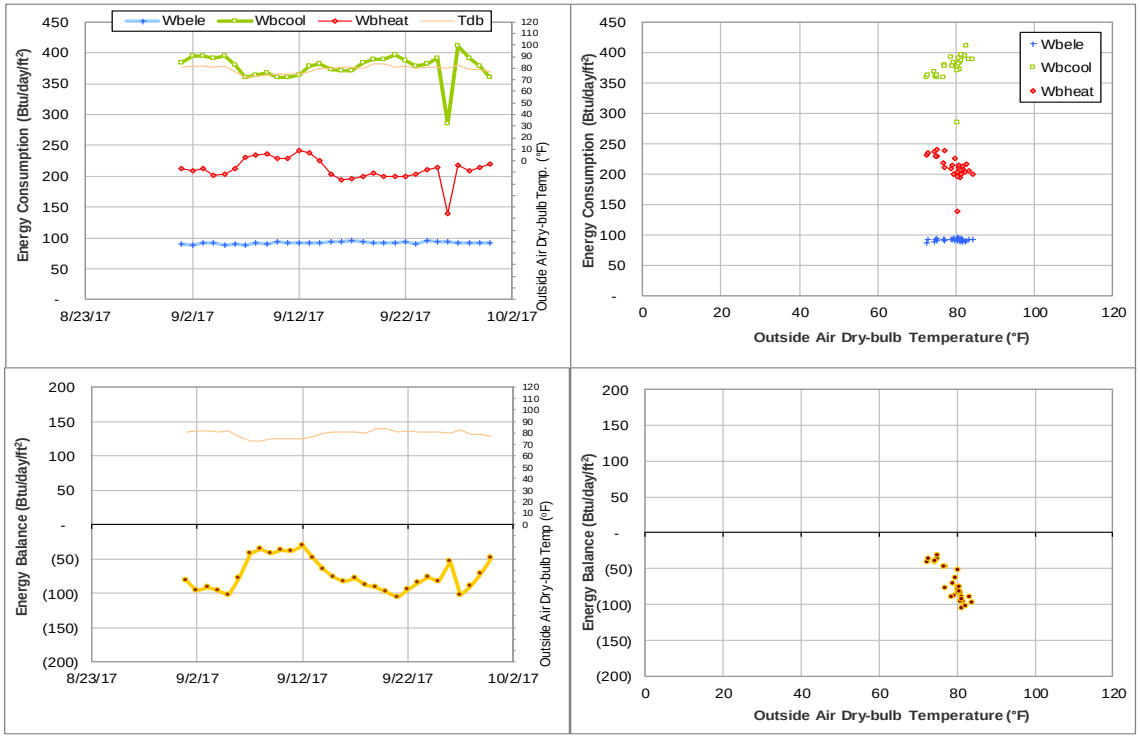


Figure IV-7 Lechner Residence Hall TAMU BLDG # 294 Energy Balance Plot during September 2017

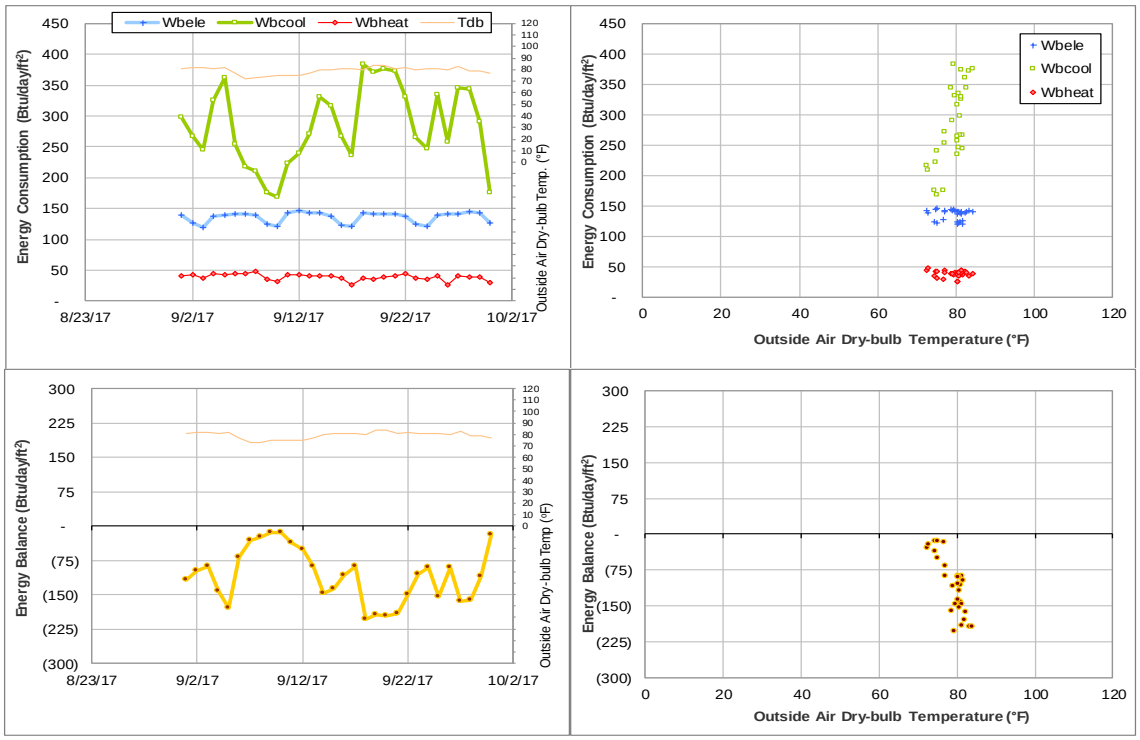


Figure IV-8 Mitchell Inst. for Fundamental Phys & Astronomy TAMU BLDG # 296 Energy Balance Plot during September 2017

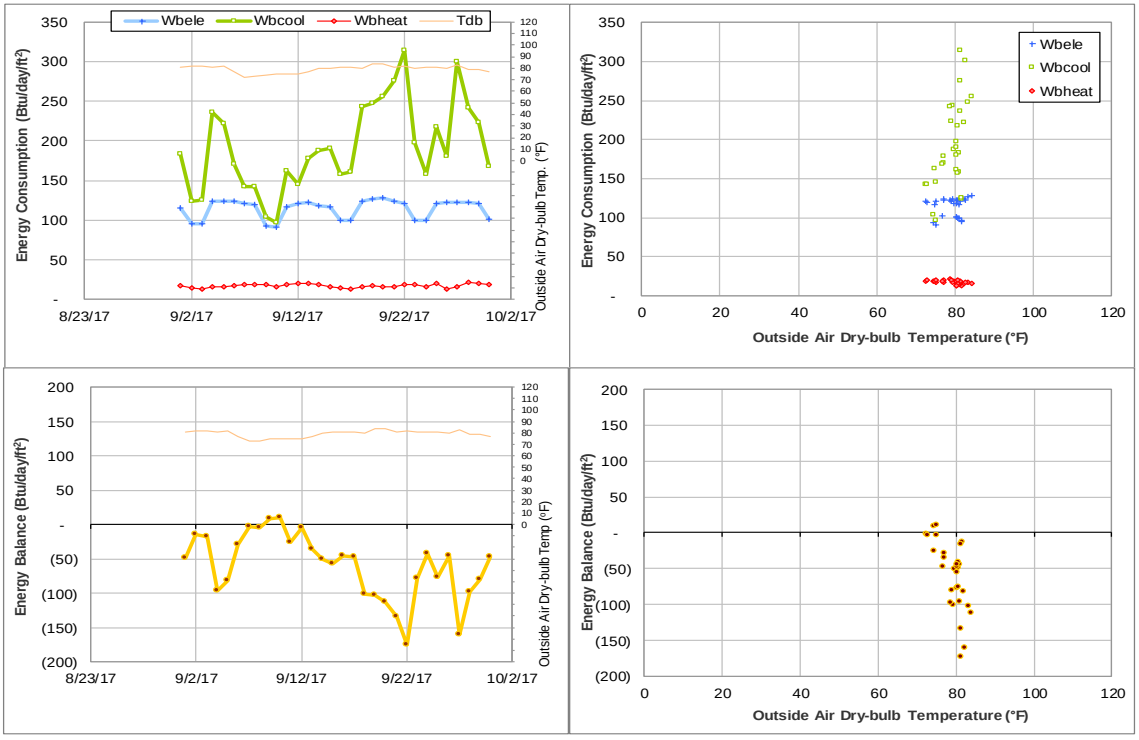


Figure IV-9 CE TTI Office & Lab Building TAMU BLDG # 325 Energy Balance Plot during September 2017

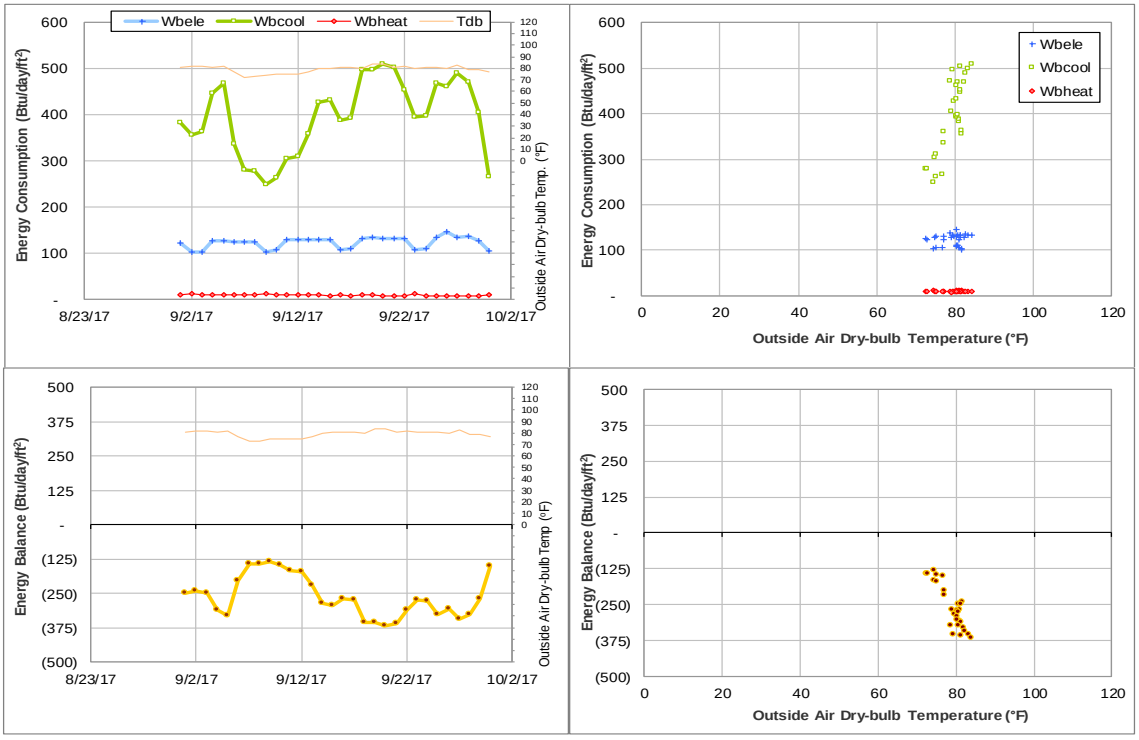


Figure IV-10 Bright Aerospace Building TAMU BLDG # 353 Energy Balance Plot during September 2017

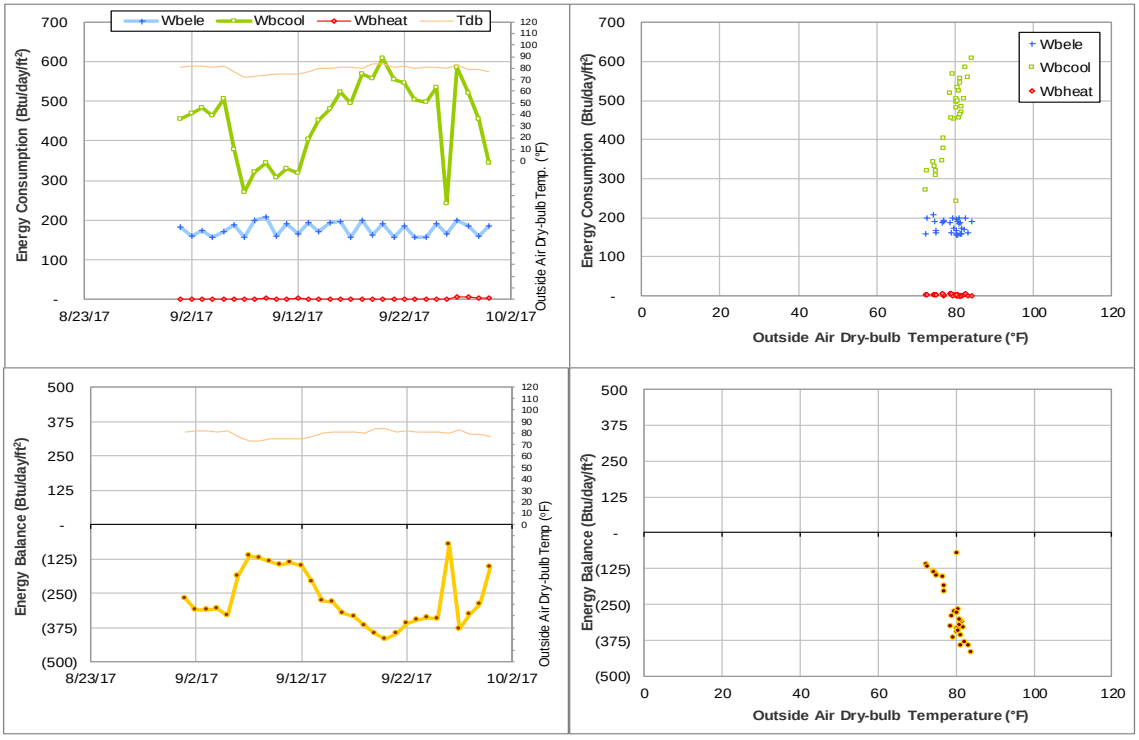


Figure IV-11 Davis Football Player Development Center TAMU BLDG # 358 Energy Balance Plot during September 2017

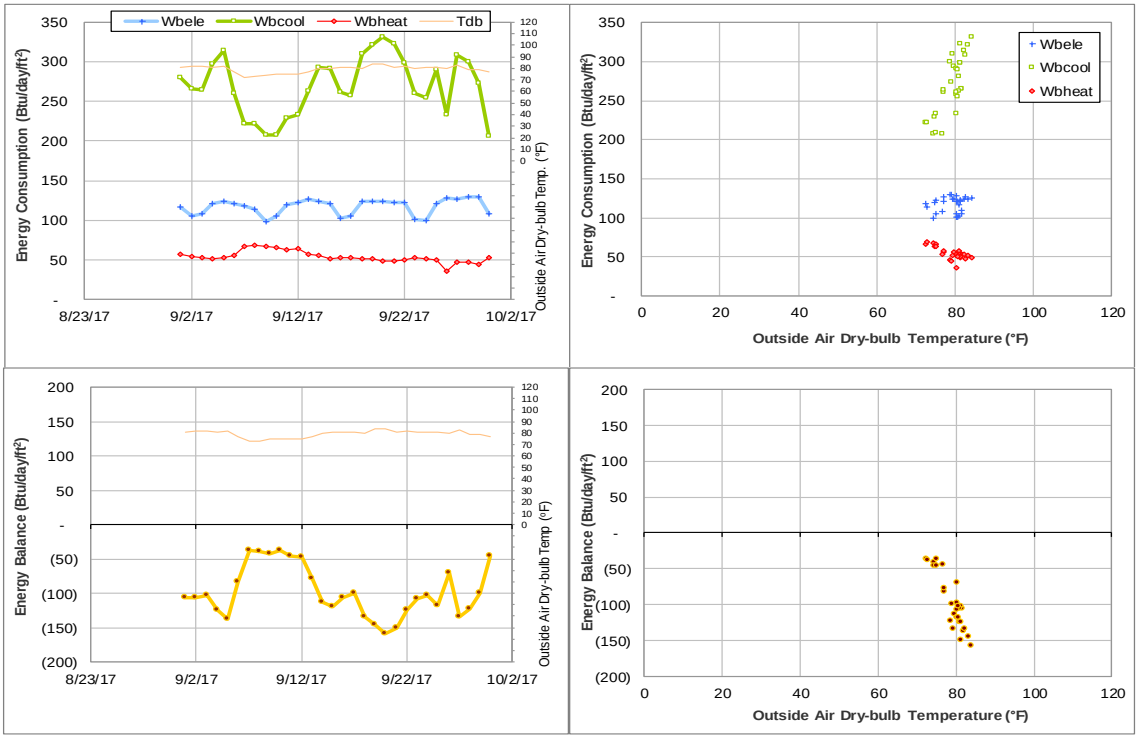


Figure IV-12 Architecture Building B&C TAMU BLDG # 359 and 432 Energy Balance Plot during September 2017

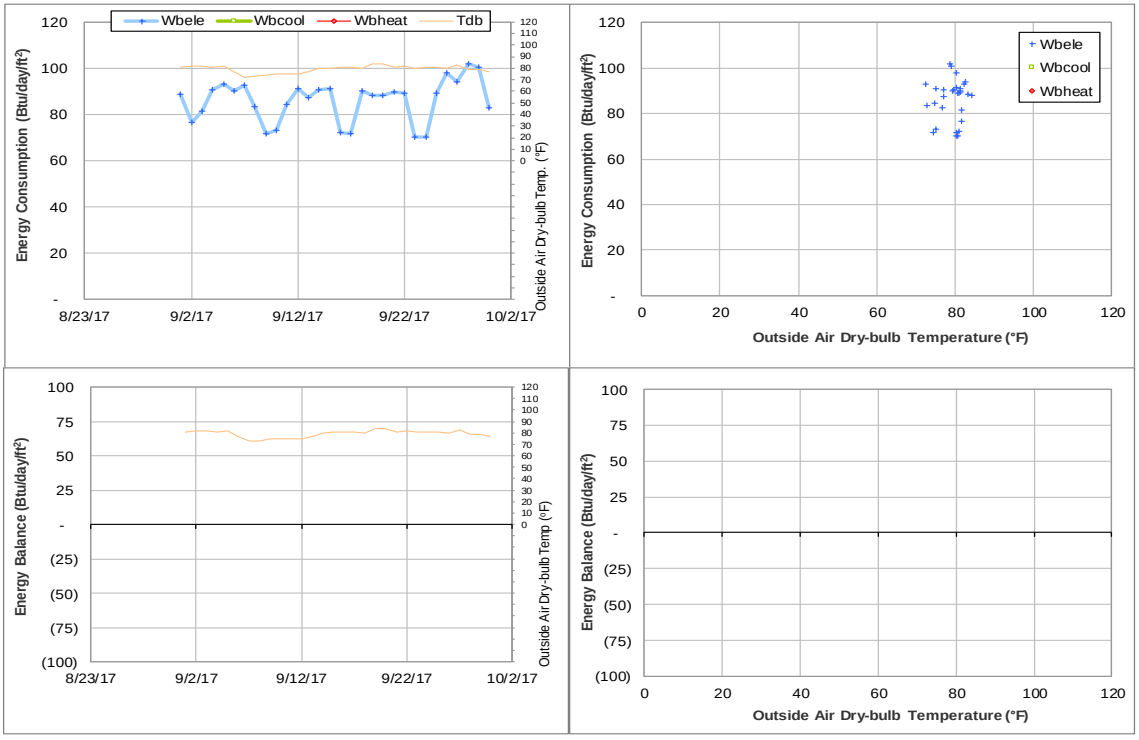


Figure IV-13 Architecture Building B TAMU BLDG # 359 Energy Balance Plot during September 2017

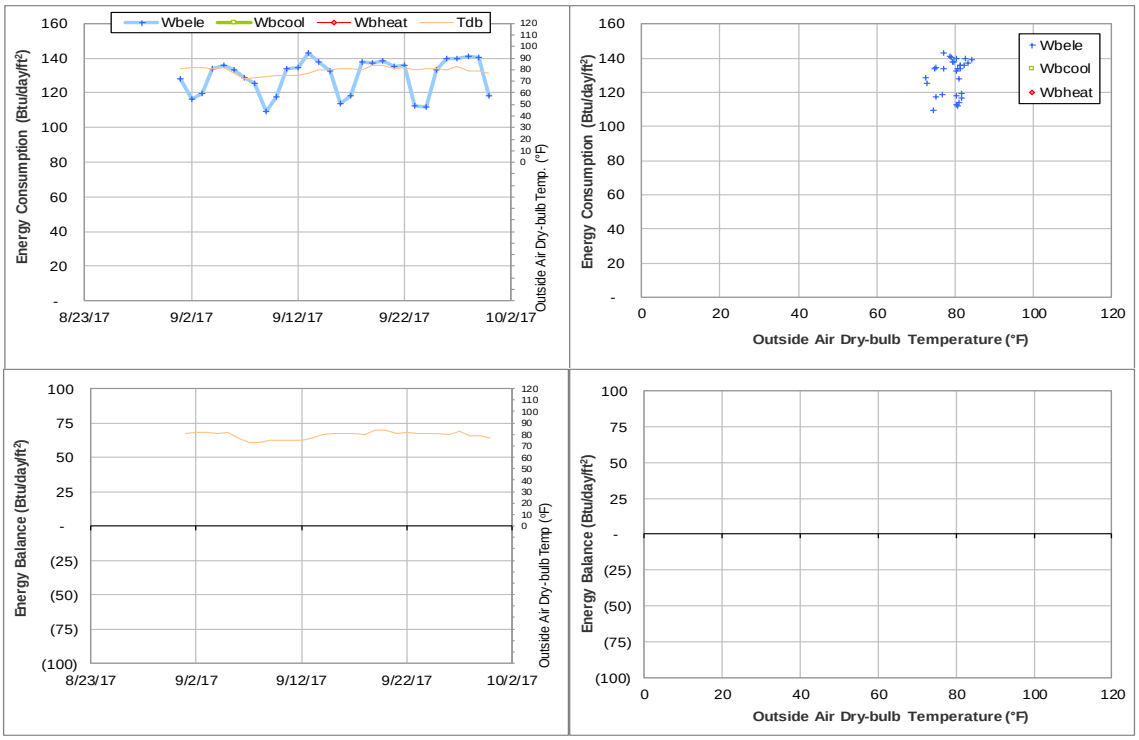


Figure IV-14 Architecture Building C TAMU BLDG # 432 Energy Balance Plot during September 2017

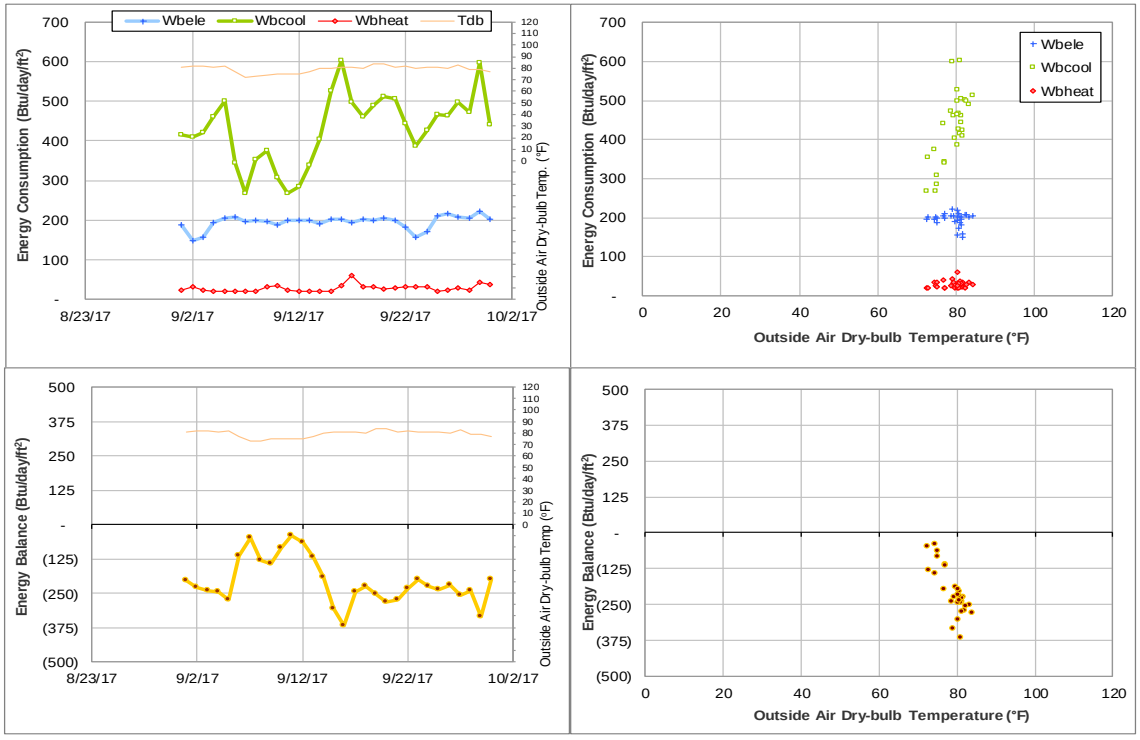


Figure IV-15 Bright Football Complex TAMU BLDG # 361 Energy Balance Plot during September 2017

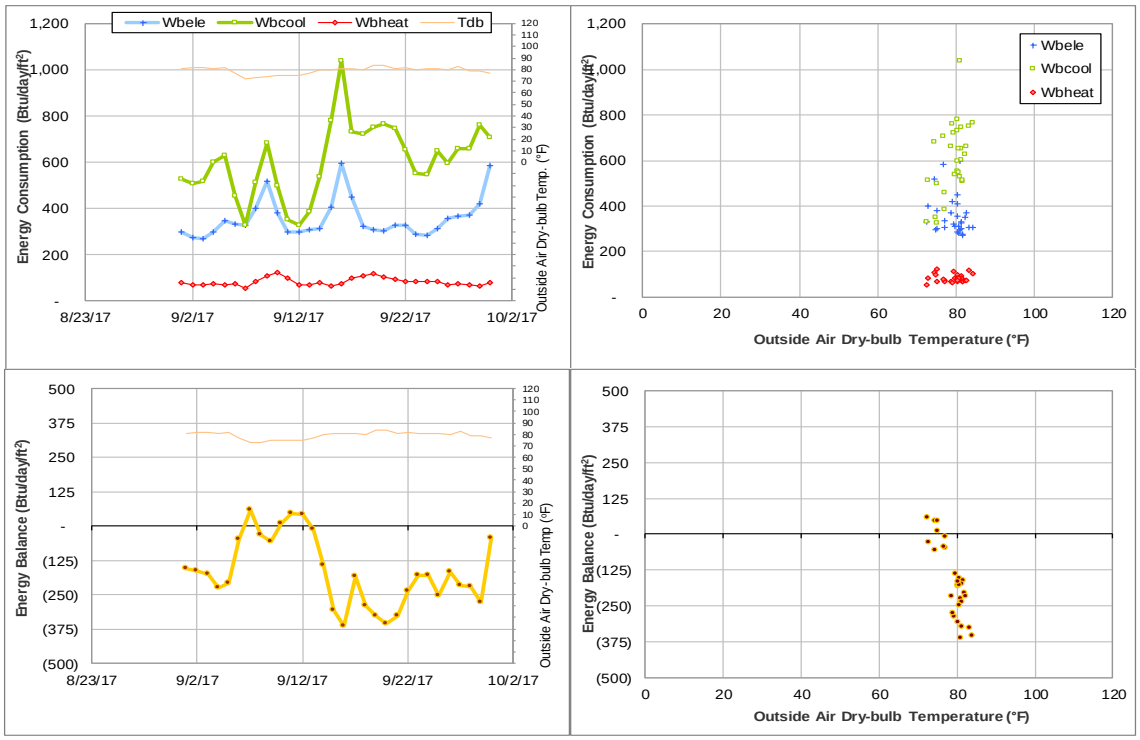


Figure IV-16 Kyle Field TAMU BLDG # 367 Energy Balance Plot during September 2017

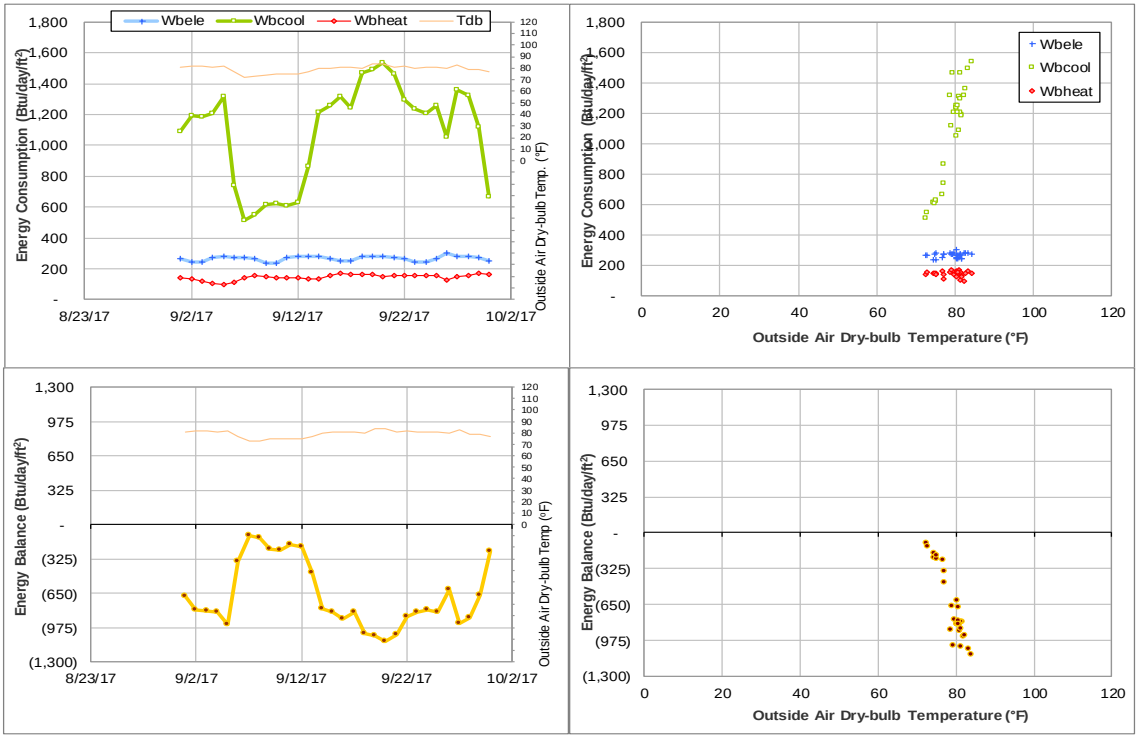


Figure IV-17 Chemistry Building Addition TAMU BLDG # 376 Energy Balance Plot during September 2017

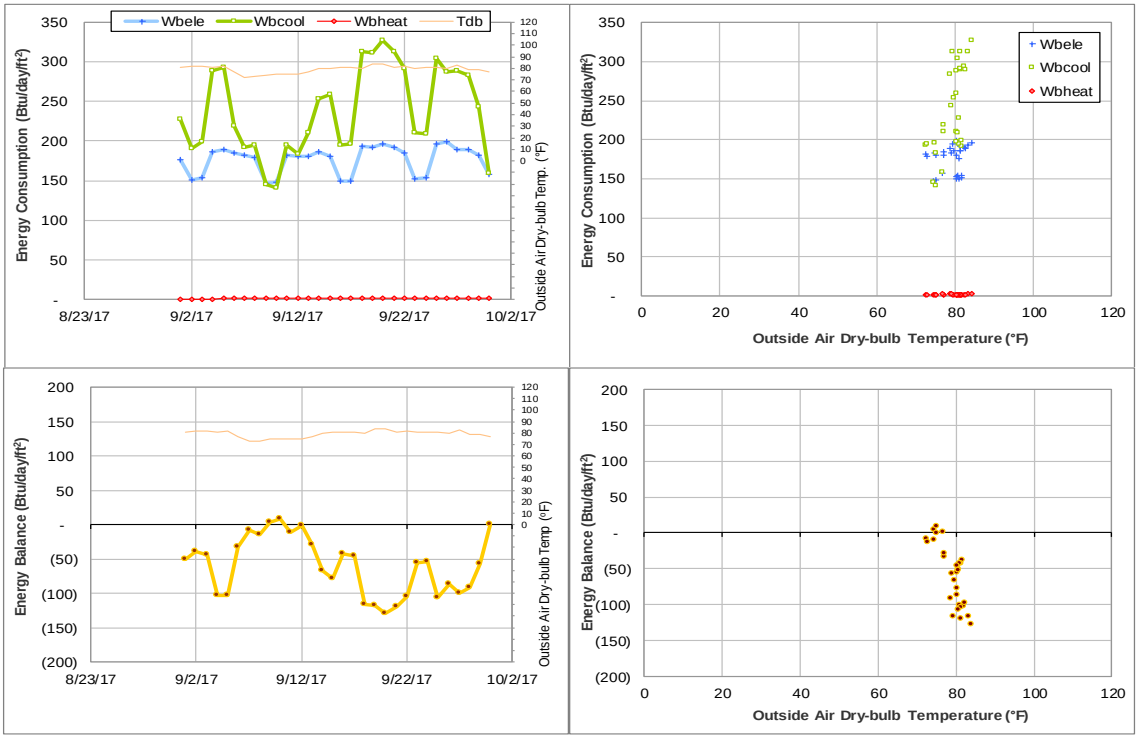


Figure IV-18 Koldus Building TAMU BLDG # 383 Energy Balance Plot during September 2017

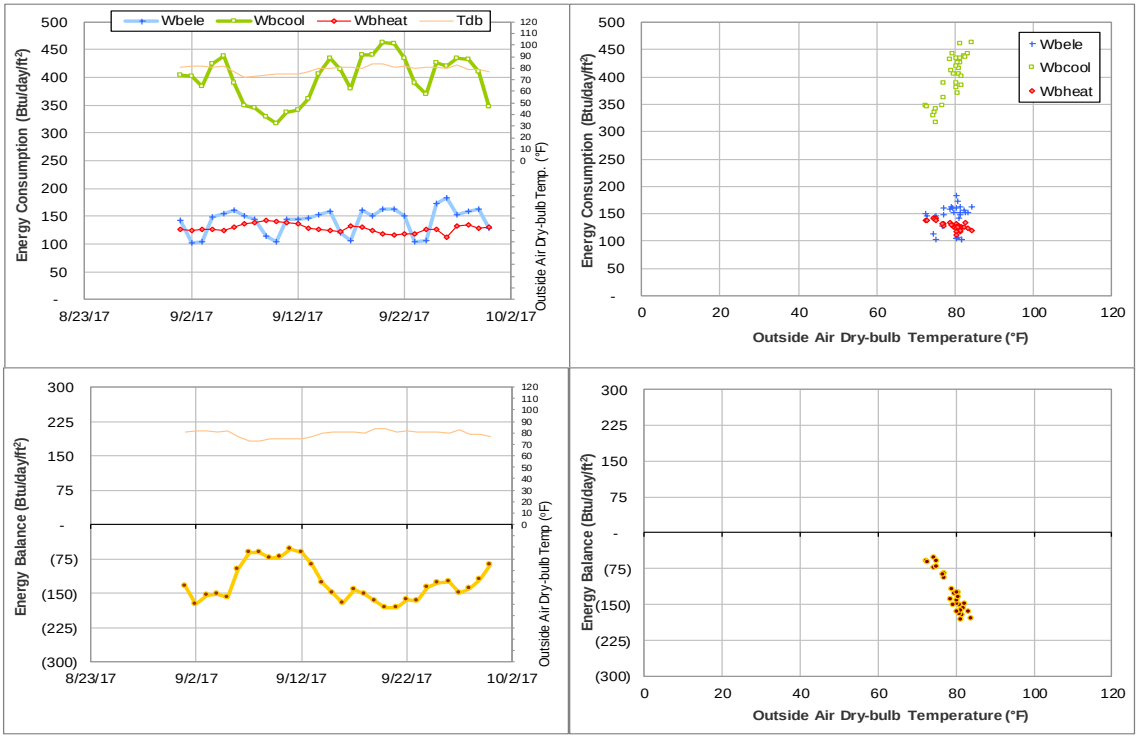


Figure IV-19 Sanders Corps of Cadets Center TAMU BLDG # 384 Energy Balance Plot during September 2017

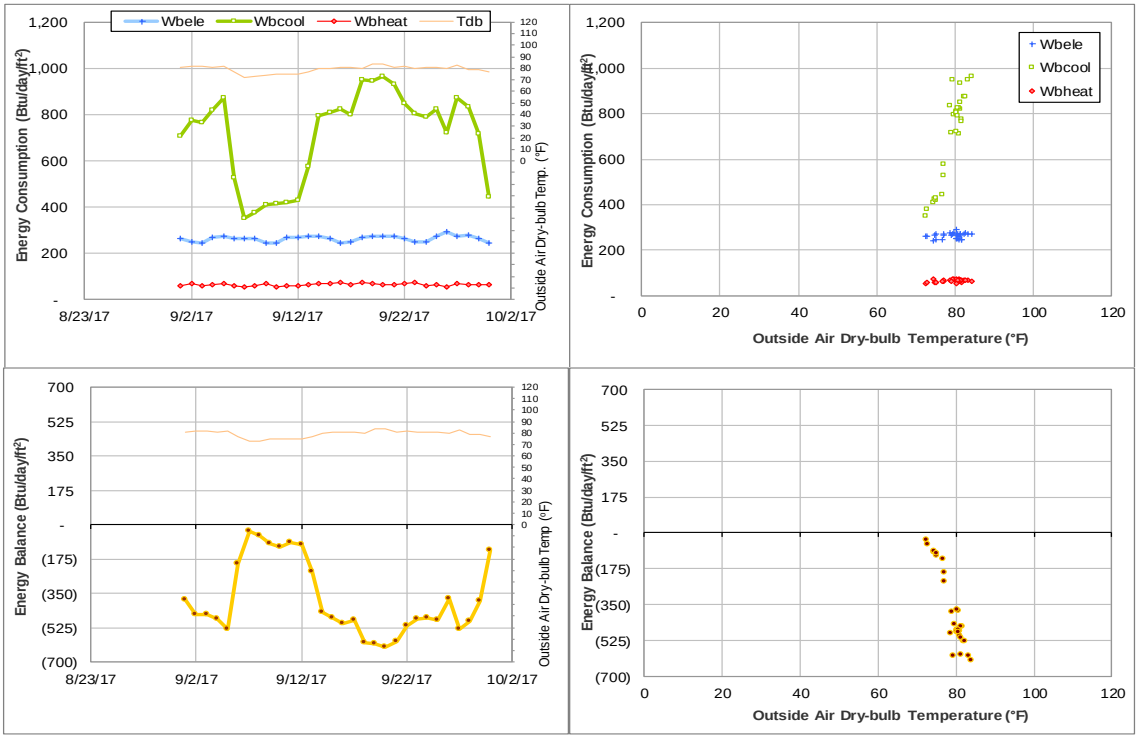


Figure IV-20 Jack E. Brown Chemical Engineering Building TAMU BLDG # 386 Energy Balance Plot during September 2017

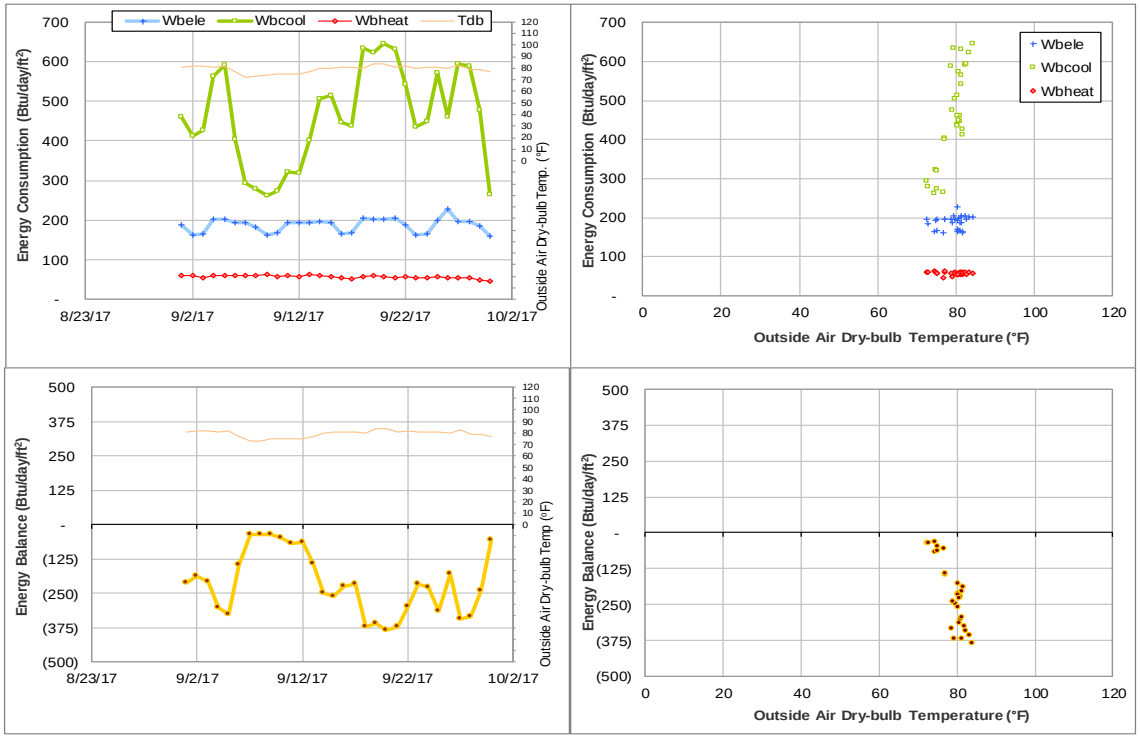


Figure IV-21 Richardson Petroleum Engineering Building TAMU BLDG # 387 Energy Balance Plot during September 2017

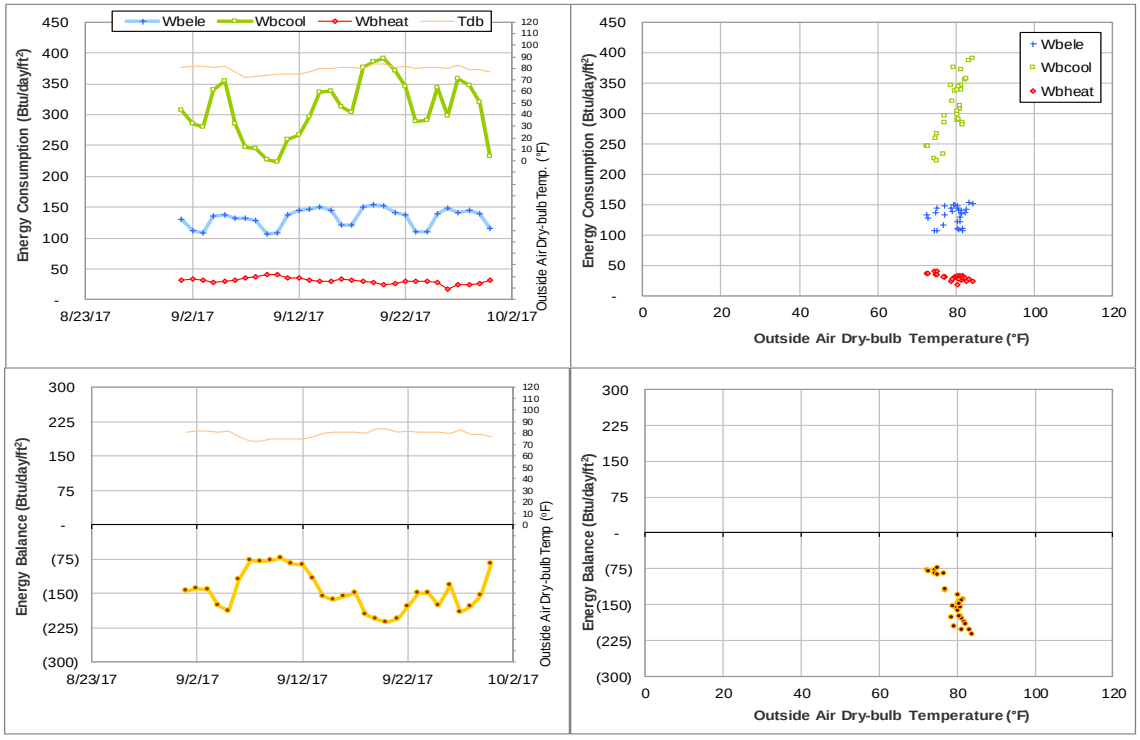


Figure IV-22 James J. Cain'51 and Mechanical Engineering Office Building TAMU BLDG # 391 Energy Balance Plot during September 2017

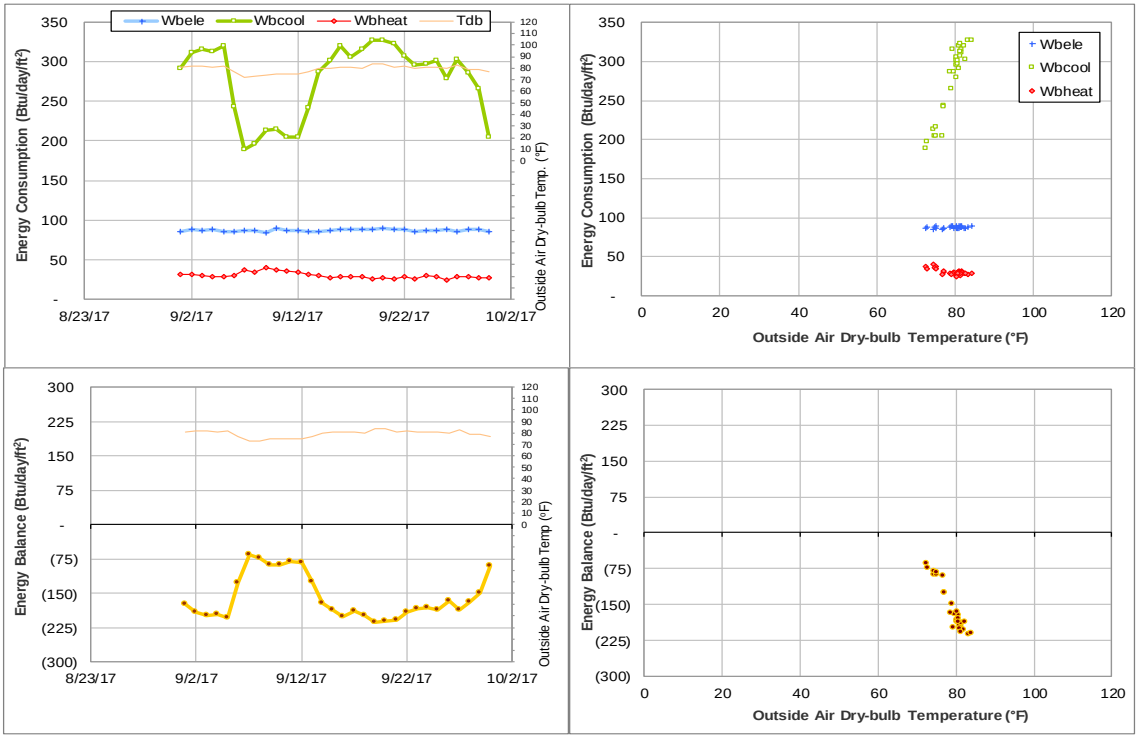


Figure IV-23 Underwood Residence Hall TAMU BLDG # 394 Energy Balance Plot during September 2017

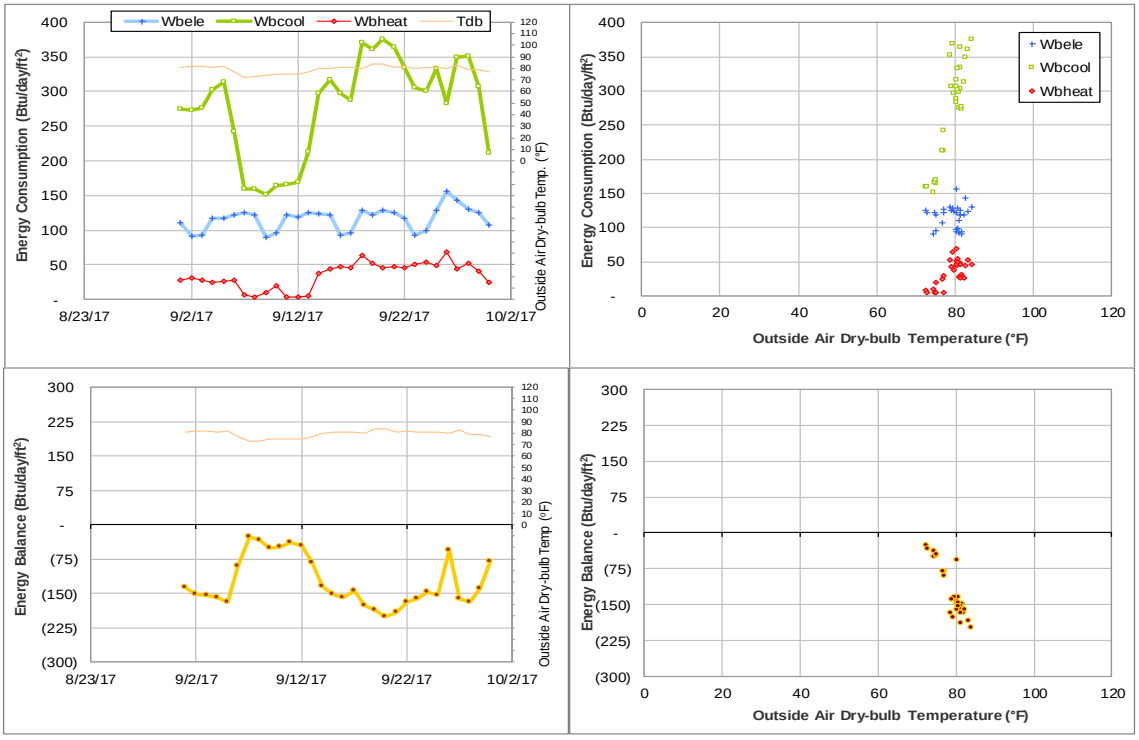


Figure IV-24 Langford Architecture Center Building A TAMU BLDG # 398 Energy Balance Plot during September 2017

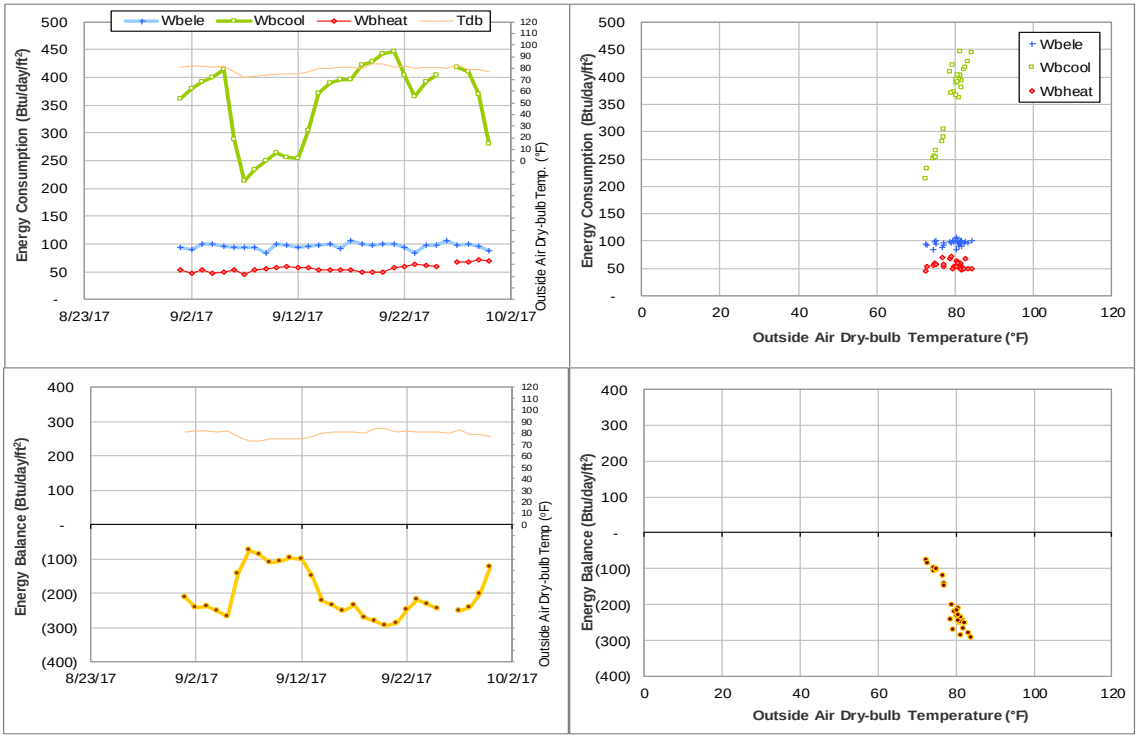


Figure IV-25 Spence Hall, Briggs Hall, and Ash II LLC TAMU BLDG # 400, 402, and 1405 Energy Balance Plot during September 2017

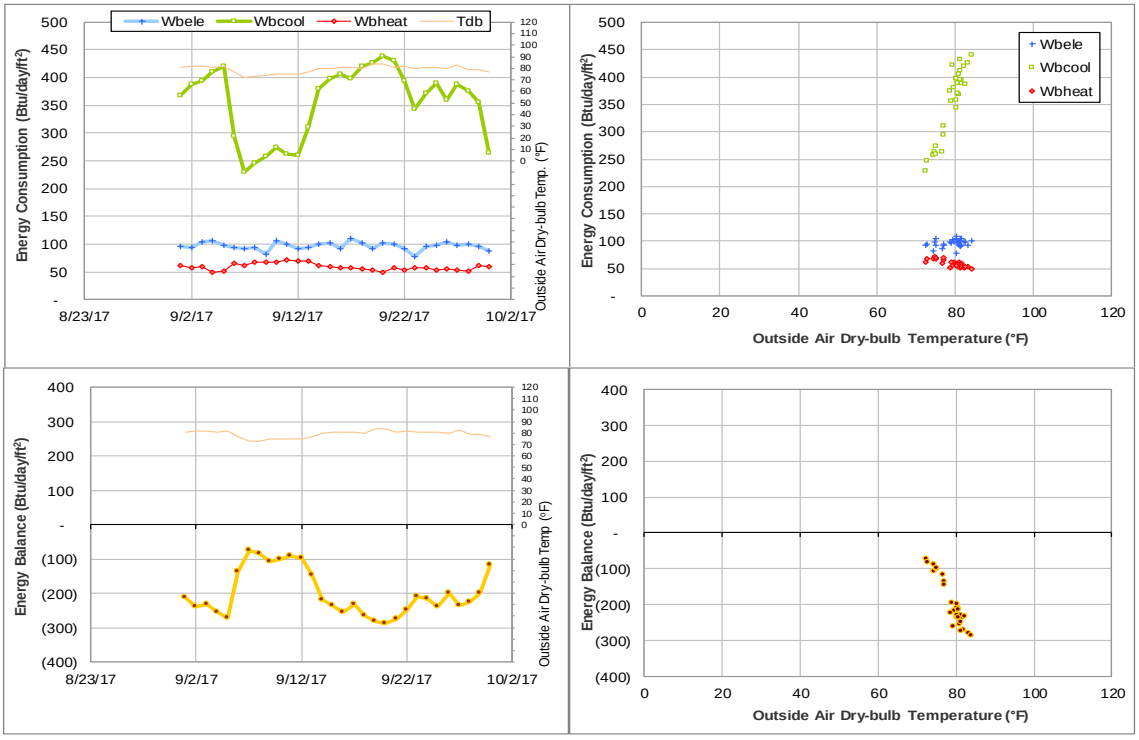


Figure IV-26 Spence Hall Dorm 1 TAMU BLDG # 400 Energy Balance Plot during September 2017

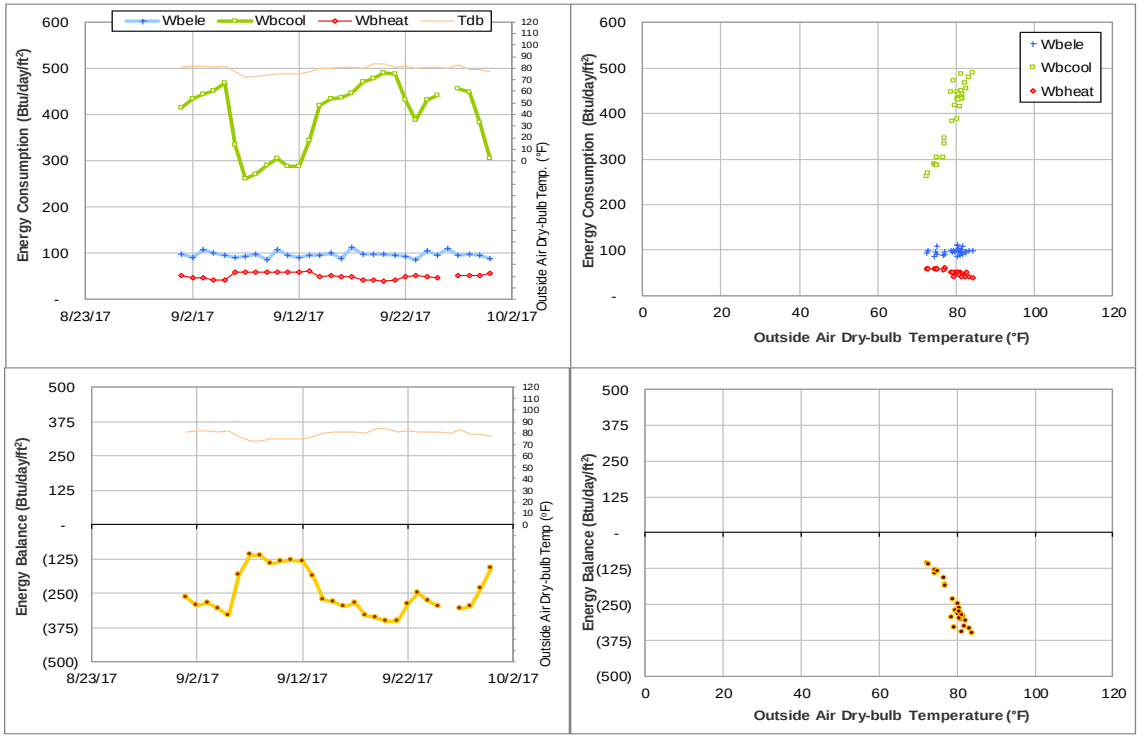


Figure IV-27 Briggs Hall Dorm 3 TAMU BLDG # 402 Energy Balance Plot during September 2017

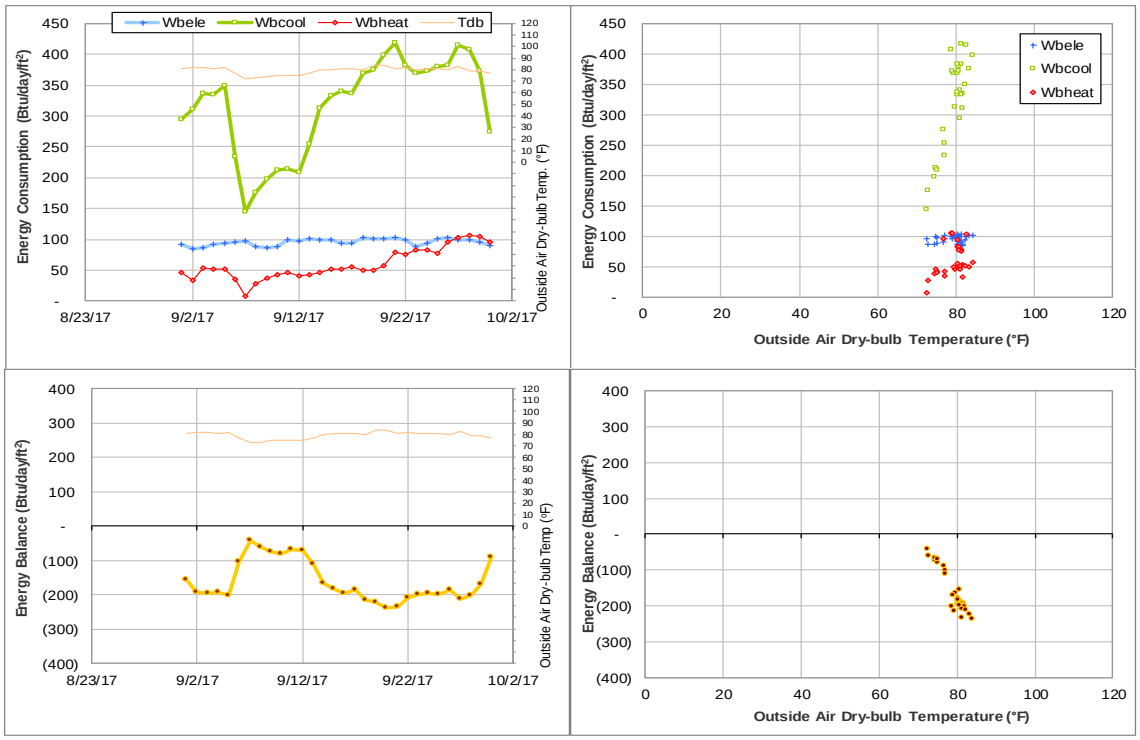


Figure IV-28 Ash II LLC TAMU BLDG # 1405 Energy Balance Plot during September 2017

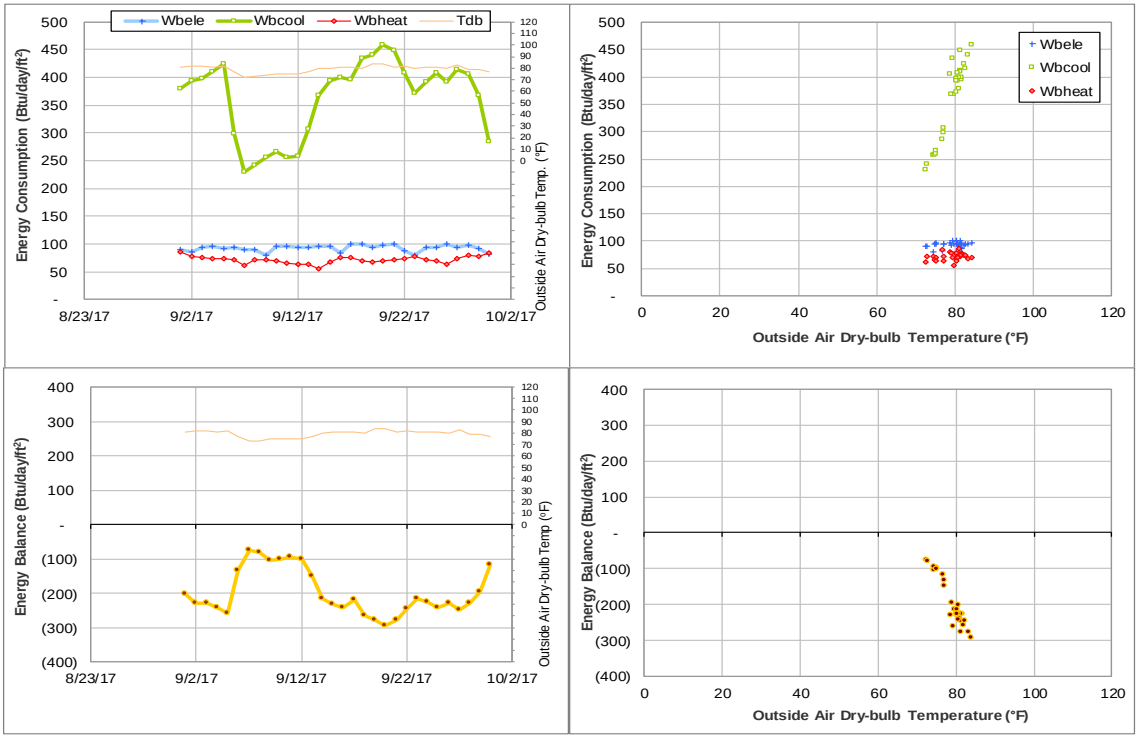


Figure IV-29 Kiest Hall, Fountain Hall, and Plank LLC TAMU BLDG # 401, 403, and 1404 Energy Balance Plot during September 2017

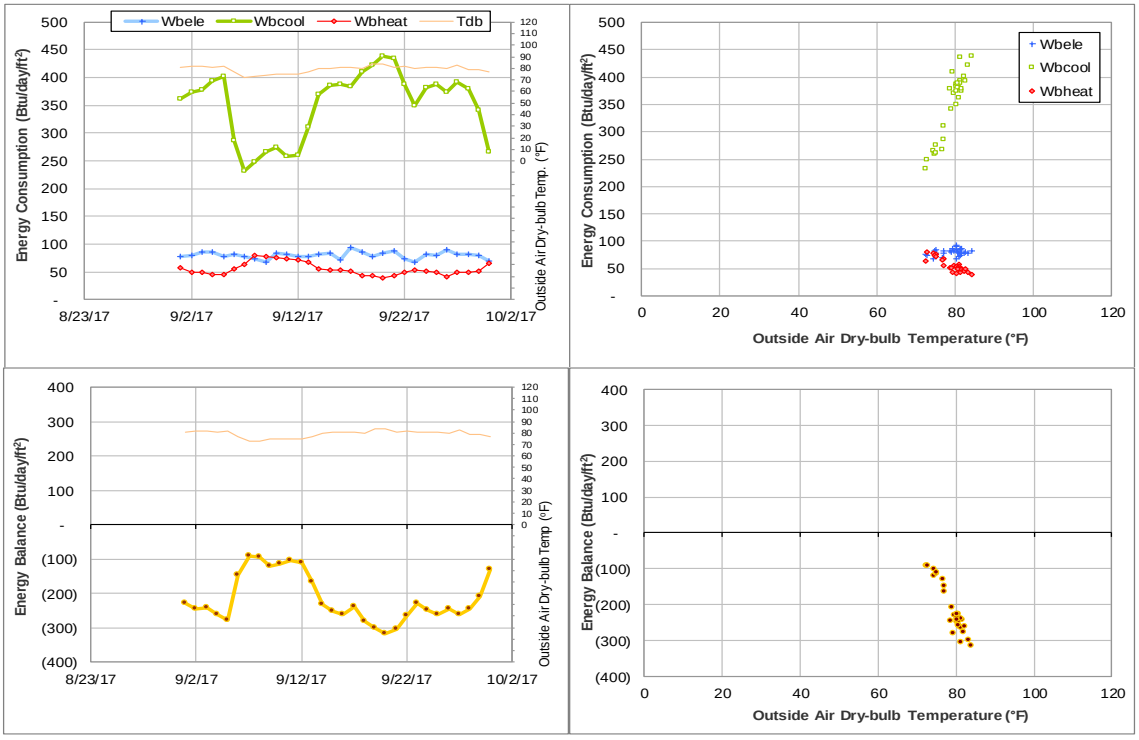


Figure IV-30 Kiest Hall Dorm 2 TAMU BLDG # 401 Energy Balance Plot during September 2017

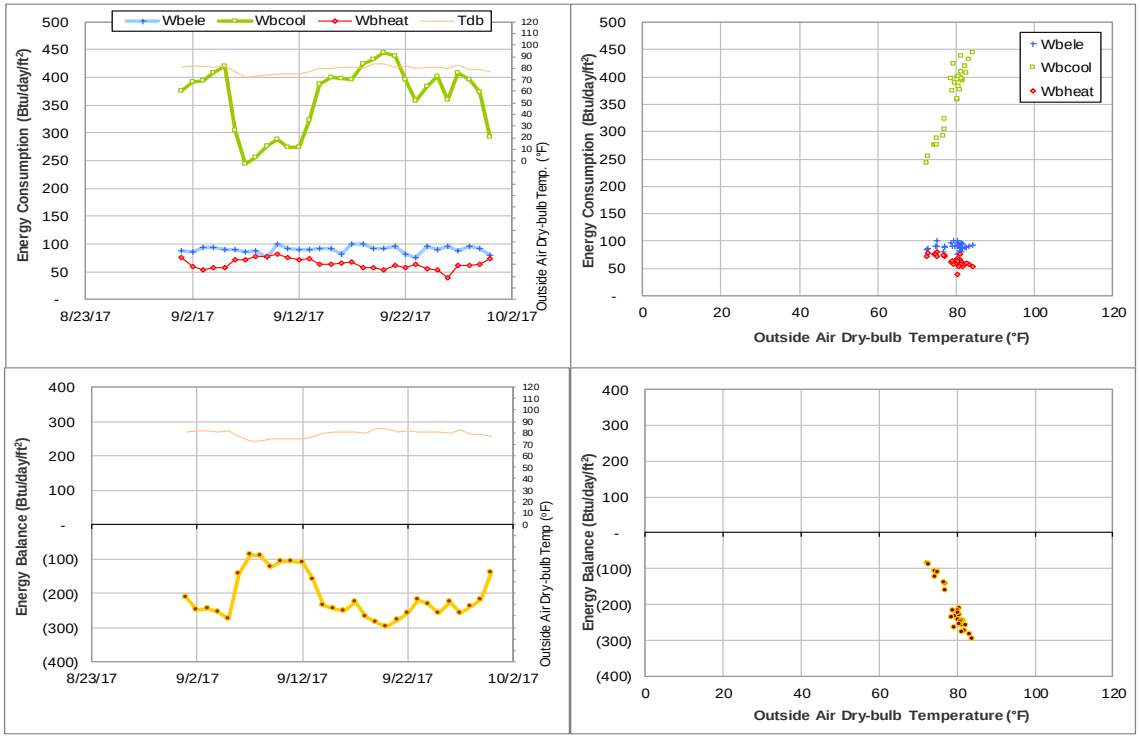


Figure IV-31 Fountain Hall Dorm 4 TAMU BLDG # 403 Energy Balance Plot during September 2017

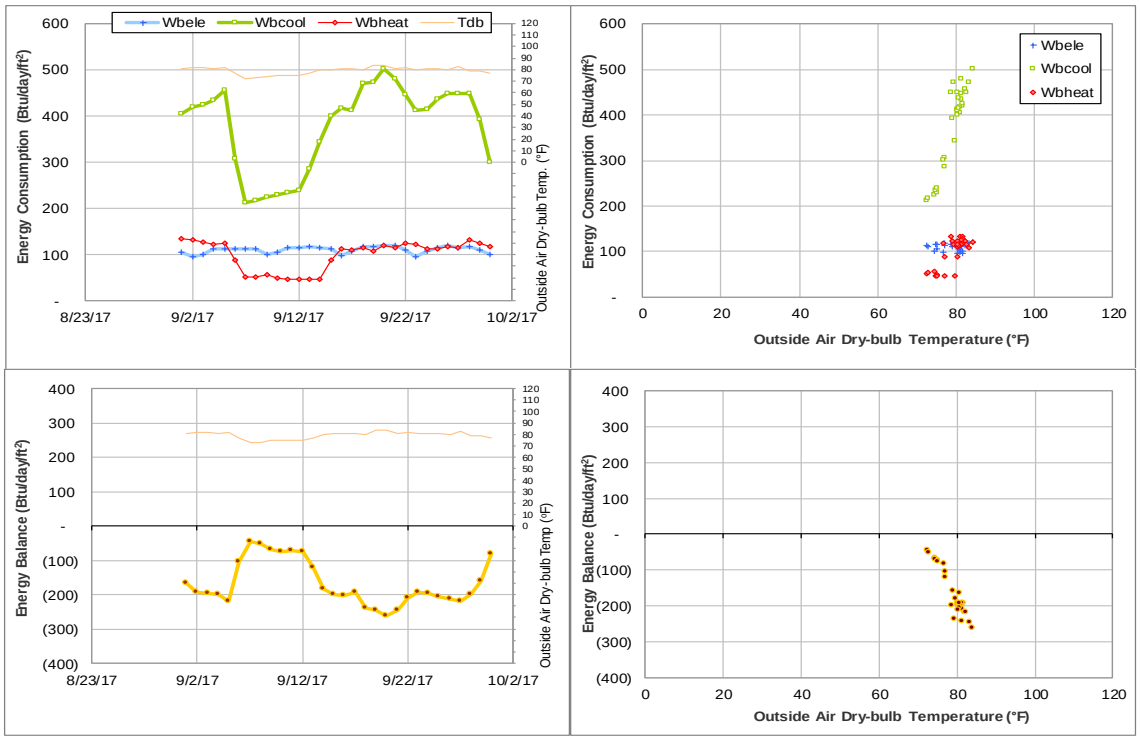


Figure IV-32 Plank LLC TAMU BLDG # 1404 Energy Balance Plot during September 2017

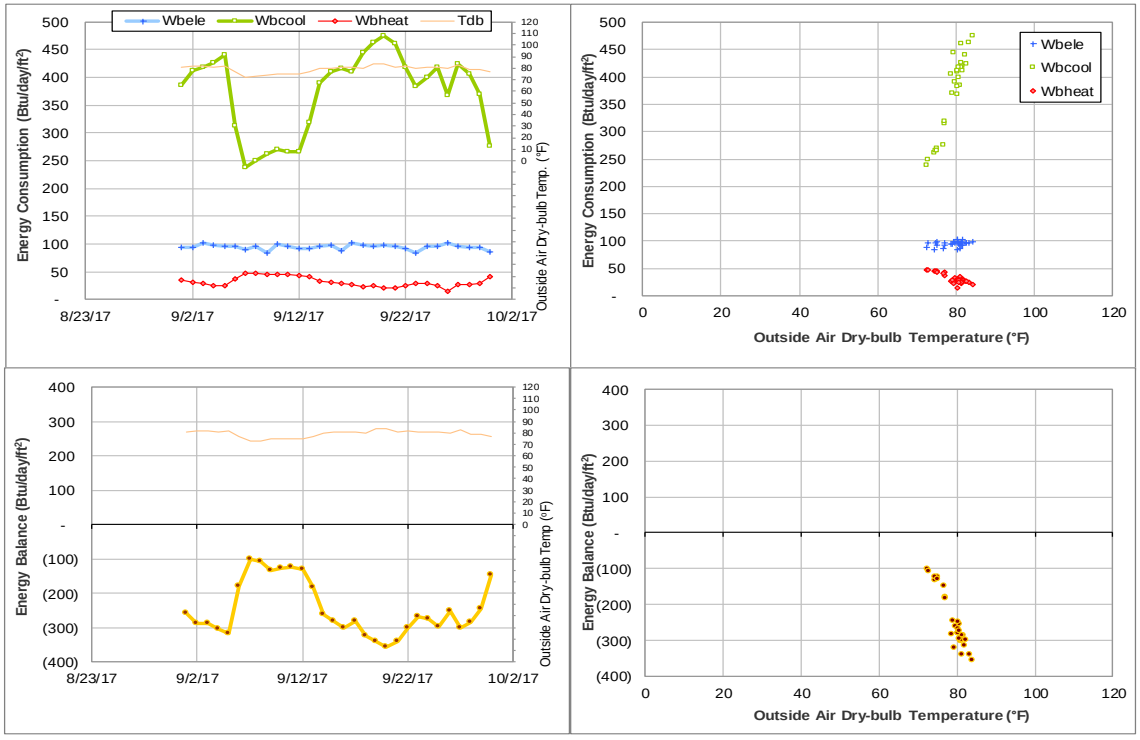


Figure IV-33 Gainer Hall, Leonard Hall and Ash LLC TAMU BLDG # 404, 406, and 1403 Energy Balance Plot during September 2017

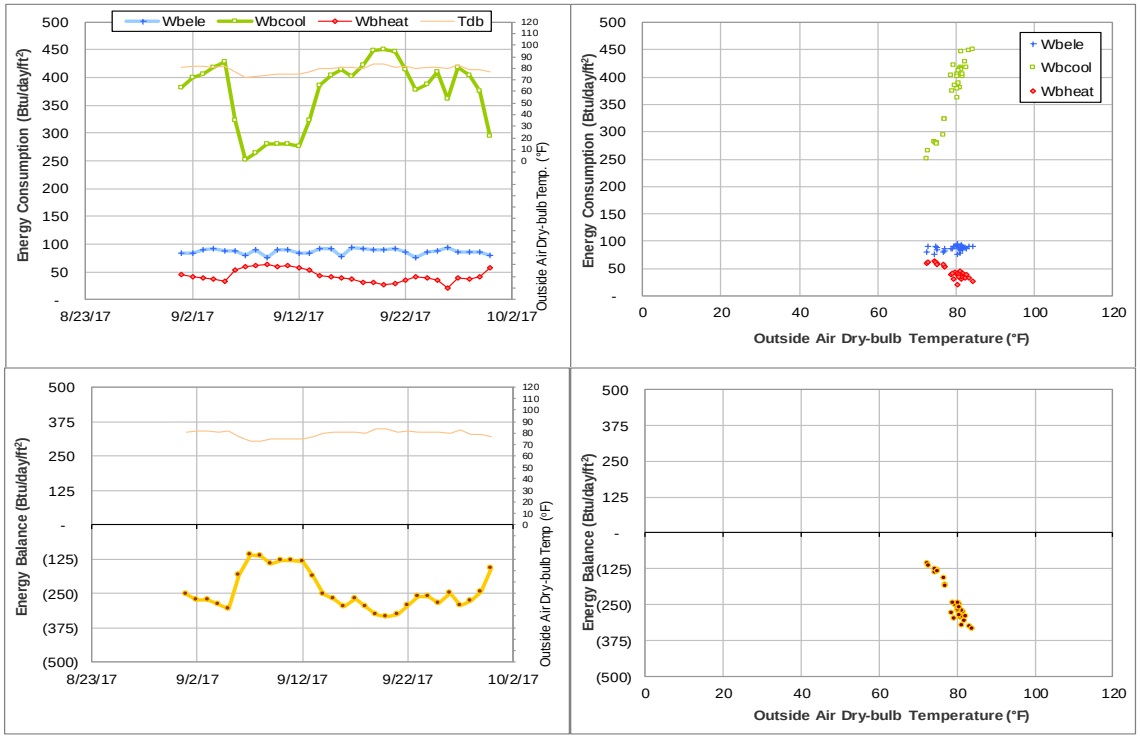


Figure IV-34 Gainer Hall Dorm 5 TAMU BLDG # 404 Energy Balance Plot during September 2017

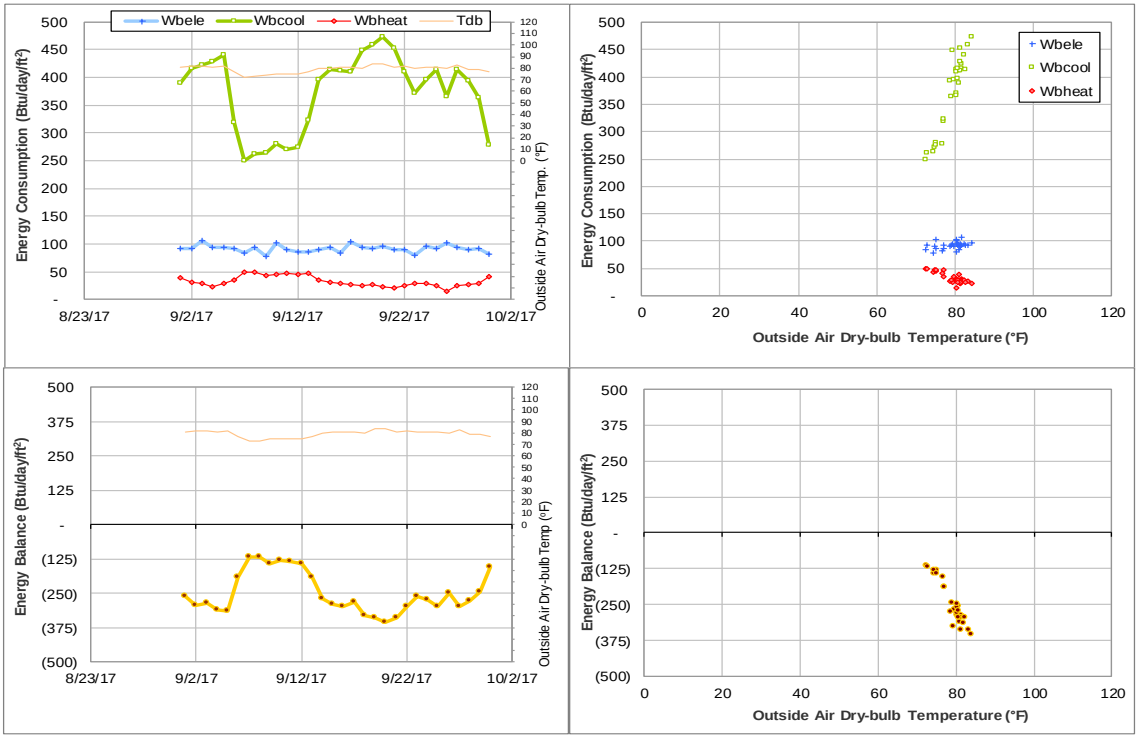


Figure IV-35 Leonard Hall - Dorm 7 TAMU BLDG # 406 Energy Balance Plot during September 2017

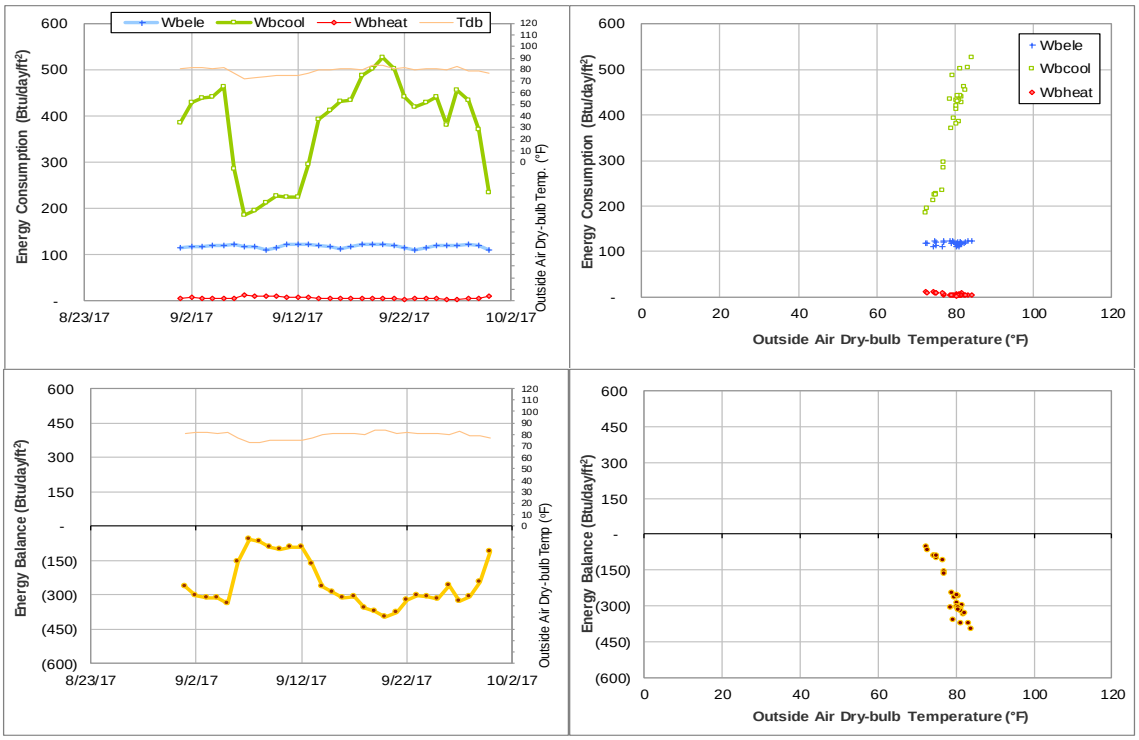


Figure IV-36 H. Grady Ash, Jr. '58 Leadership Learning Center TAMU BLDG # 1403 Energy Balance Plot during September 2017

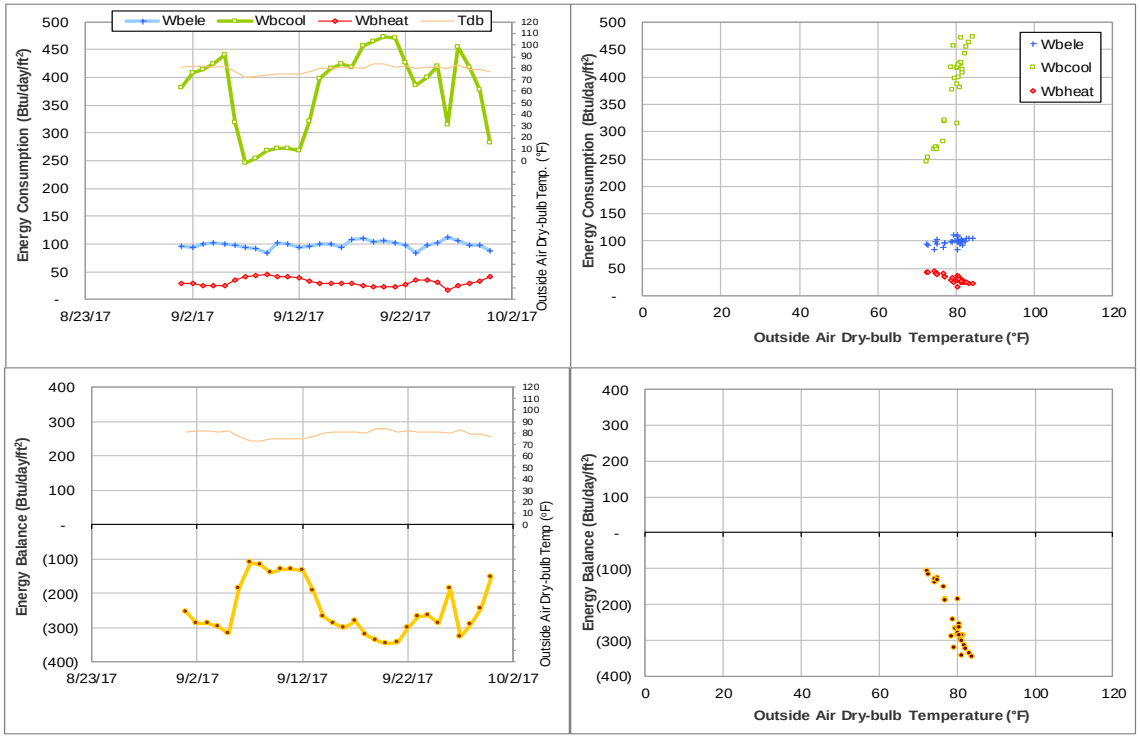


Figure IV-37 Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center TAMU BLDG # 405, 407, and 1402 Energy Balance Plot during September 2017

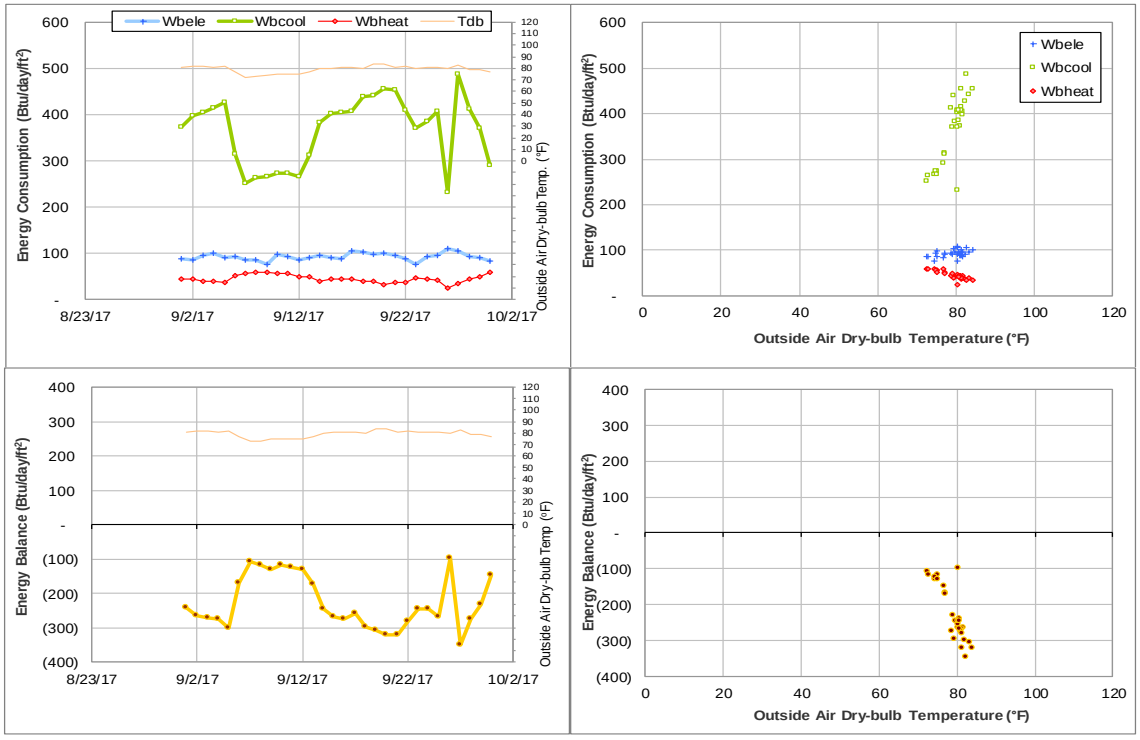


Figure IV-38 Lacy Hall - Dorm 6 TAMU BLDG # 405 Energy Balance Plot during September 2017

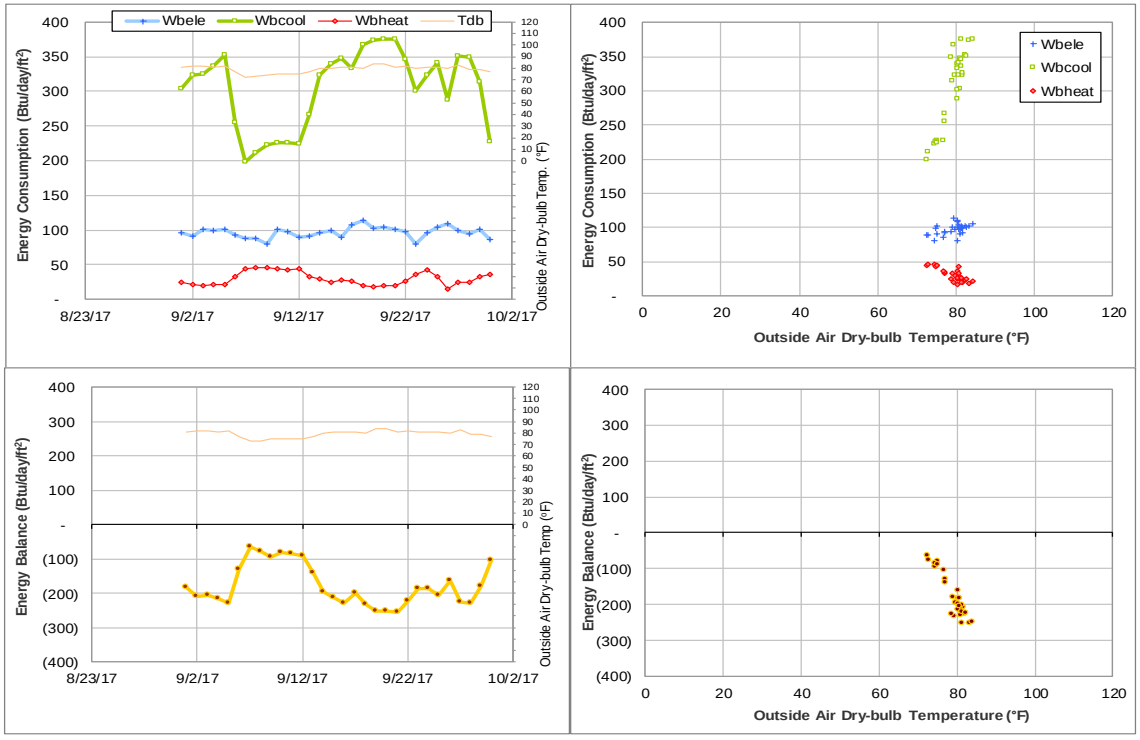


Figure IV-39 Harrell Hall - Dorm 8 TAMU BLDG # 407 Energy Balance Plot during September 2017

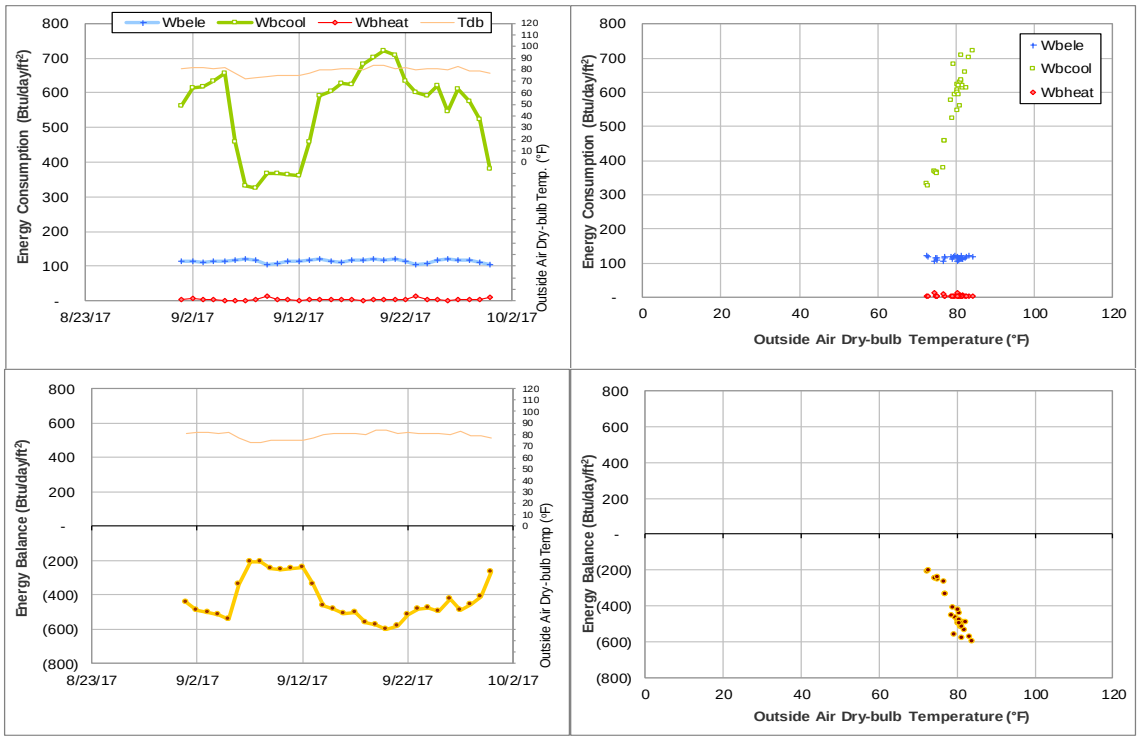


Figure IV-40 Buzbee Leadership Learning Center TAMU BLDG # 1402 Energy Balance Plot during September 2017

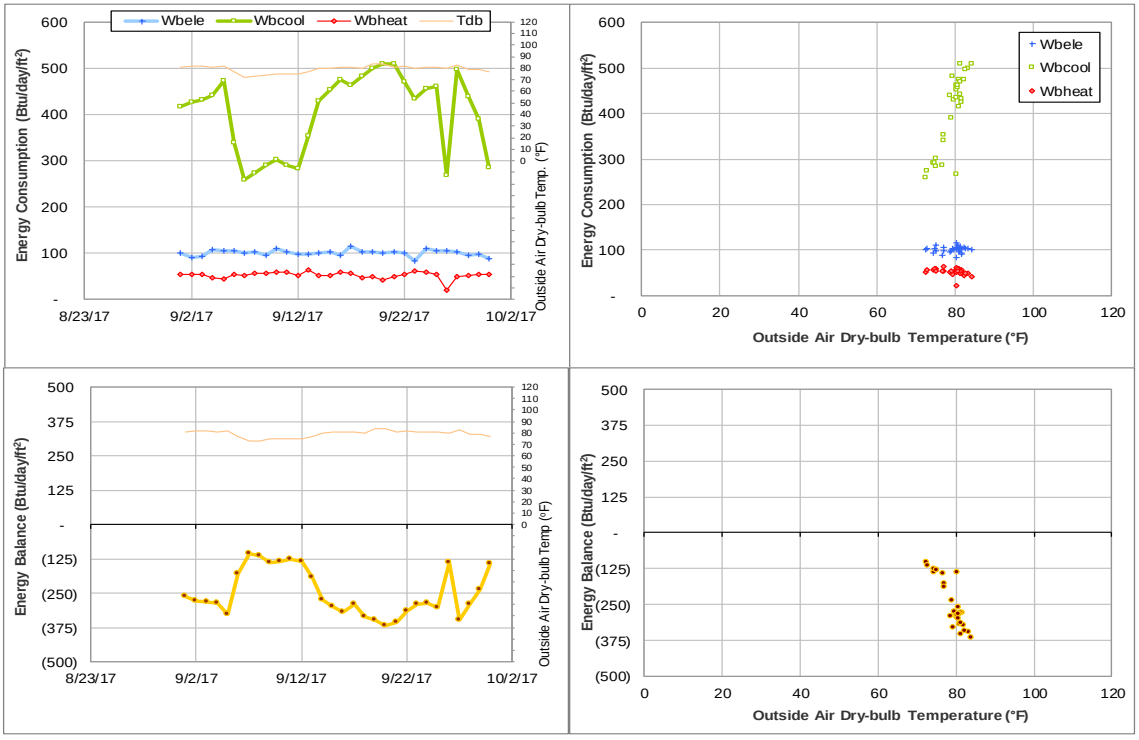


Figure IV-41 Whitely Hall - Dorm 9 TAMU BLDG # 408 Energy Balance Plot during September 2017

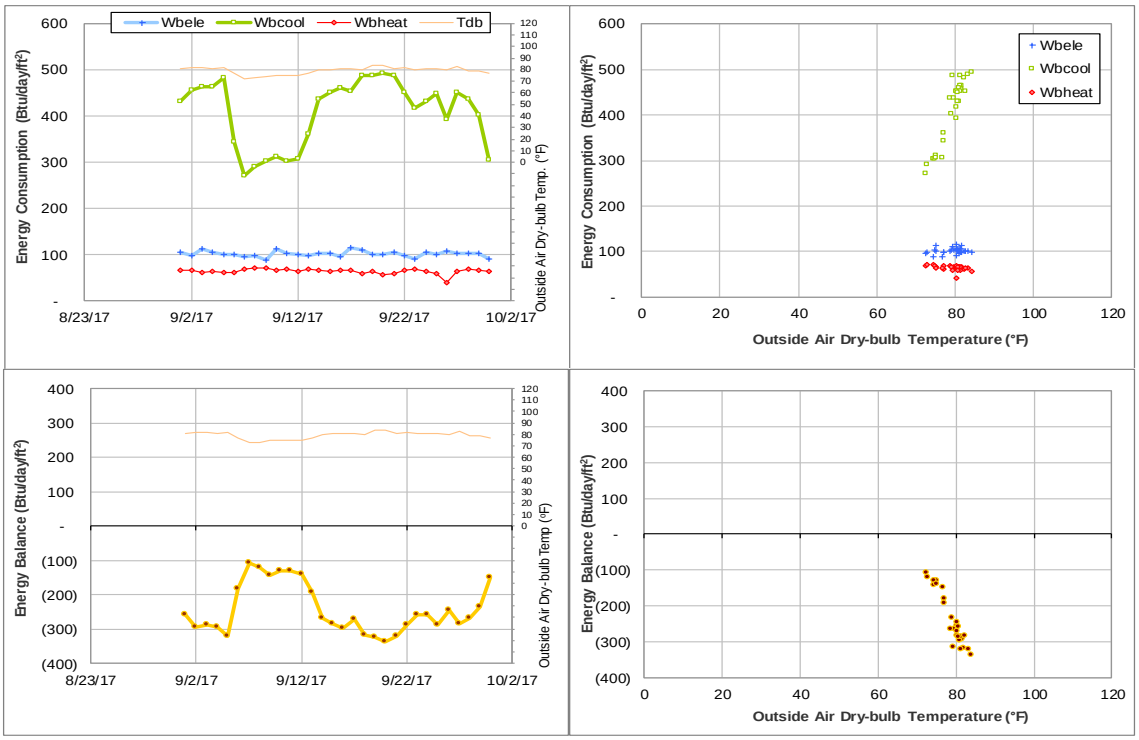


Figure IV-42 White Hall - Dorm 10 TAMU BLDG # 409 Energy Balance Plot during September 2017

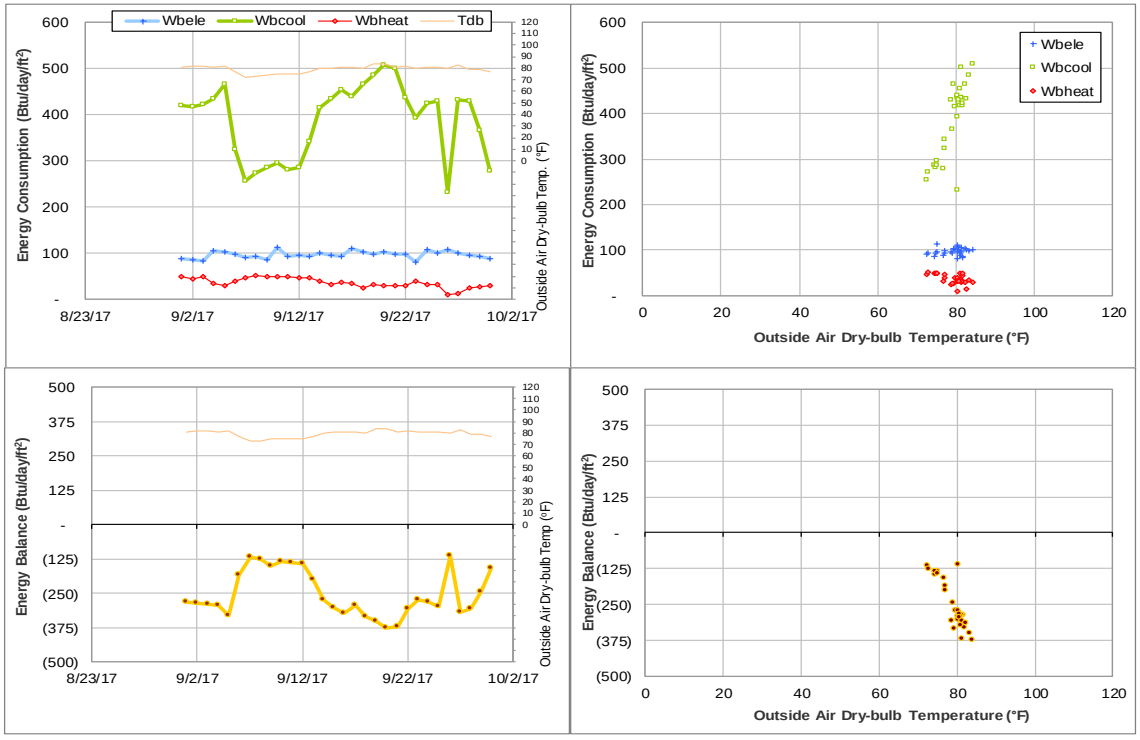


Figure IV-43 Harrington Hall - Dorm 11 TAMU BLDG # 410 Energy Balance Plot during September 2017

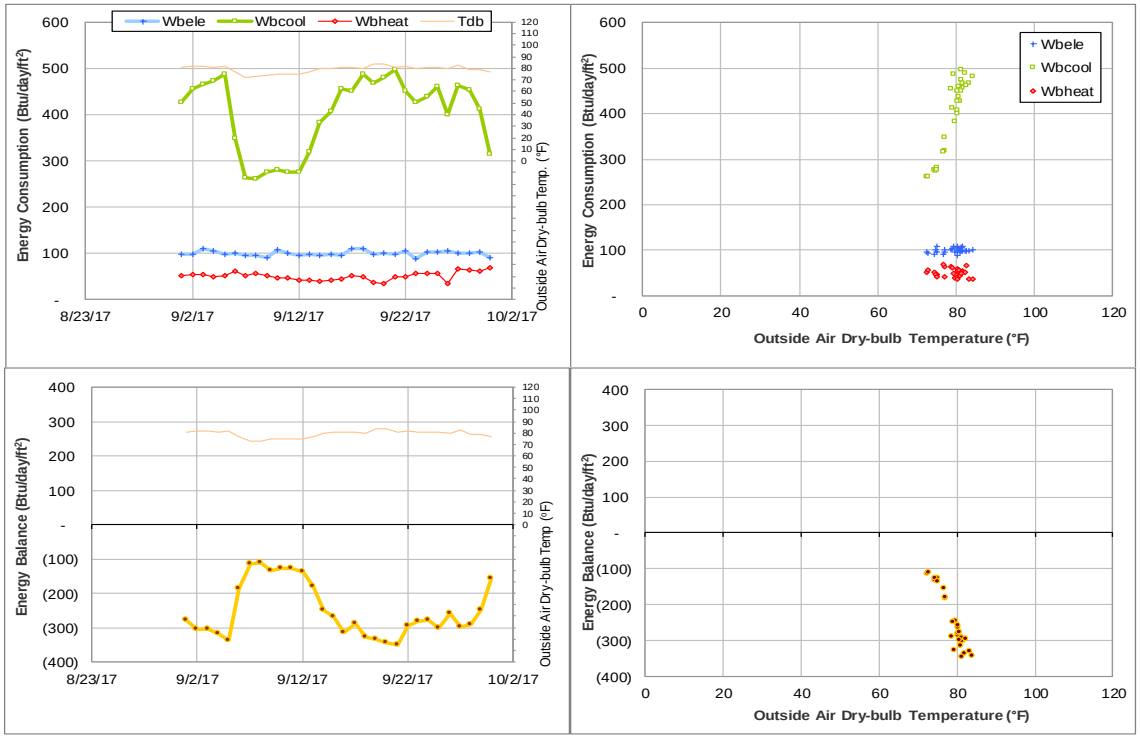


Figure IV-44 Utay Hall - Dorm 12 TAMU BLDG # 411 Energy Balance Plot during September 2017

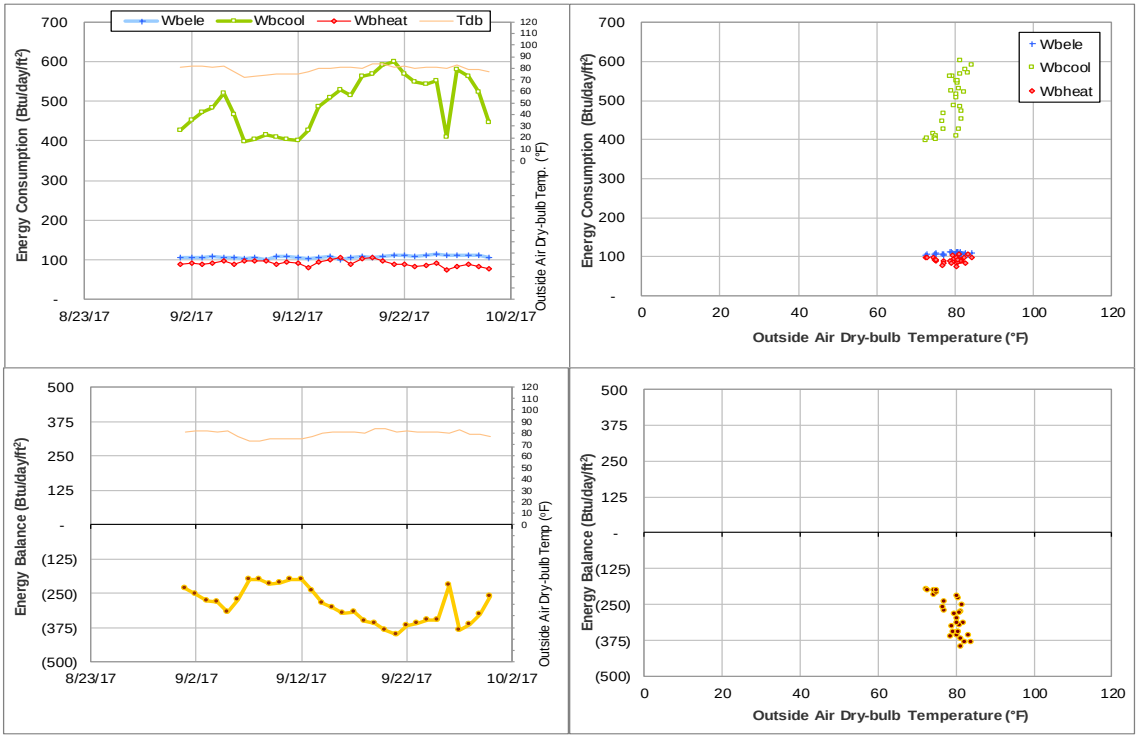


Figure IV-45 Moses Residence Hall TAMU BLDG # 412 Energy Balance Plot during September 2017

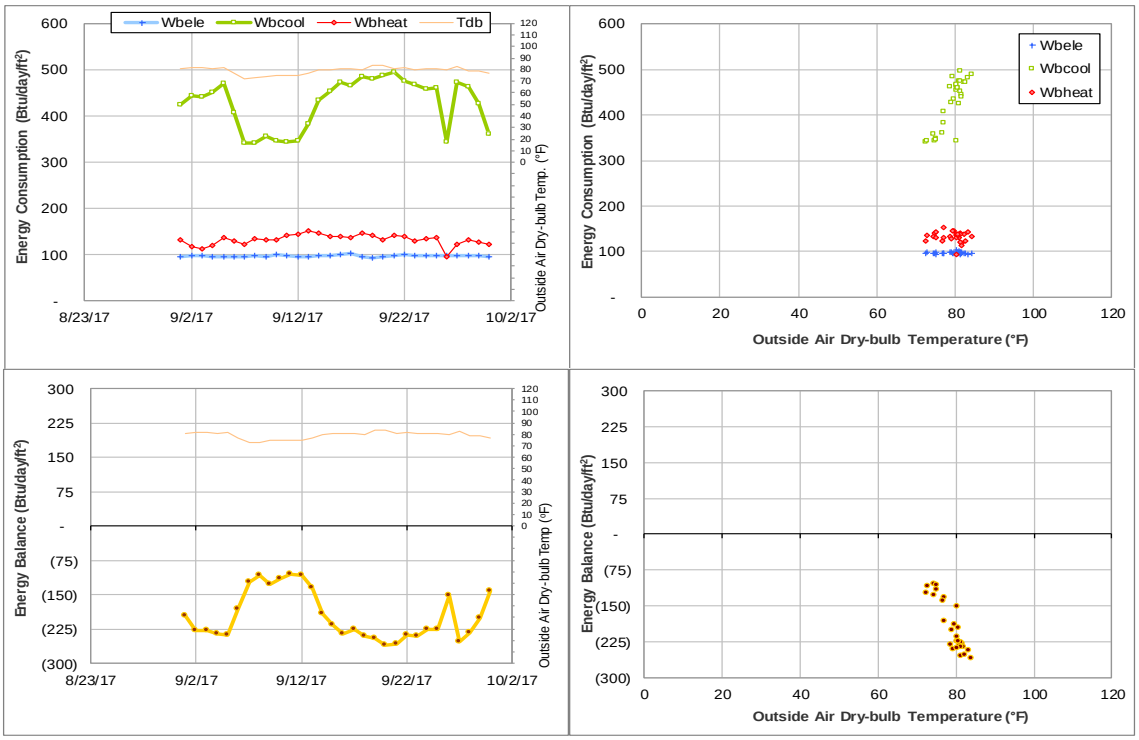


Figure IV-46 Davis-Gary Residence Hall TAMU BLDG # 415 Energy Balance Plot during September 2017

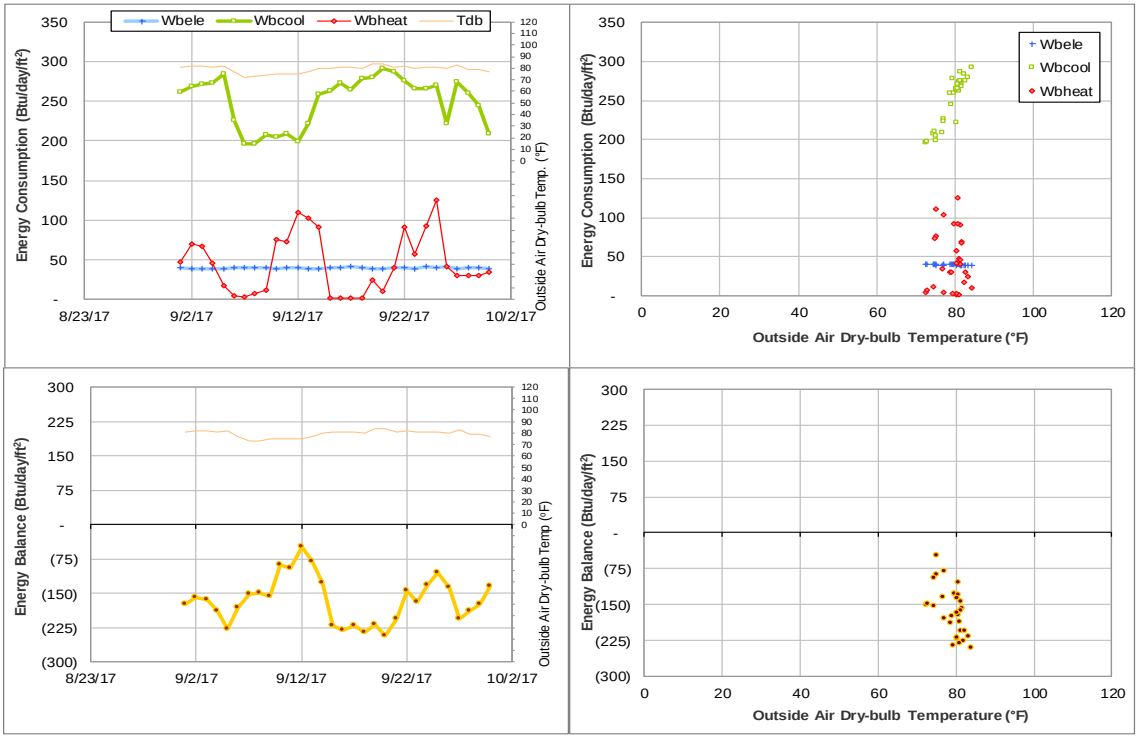


Figure IV-47 Legett Residence Hall TAMU BLDG # 419 Energy Balance Plot during September 2017

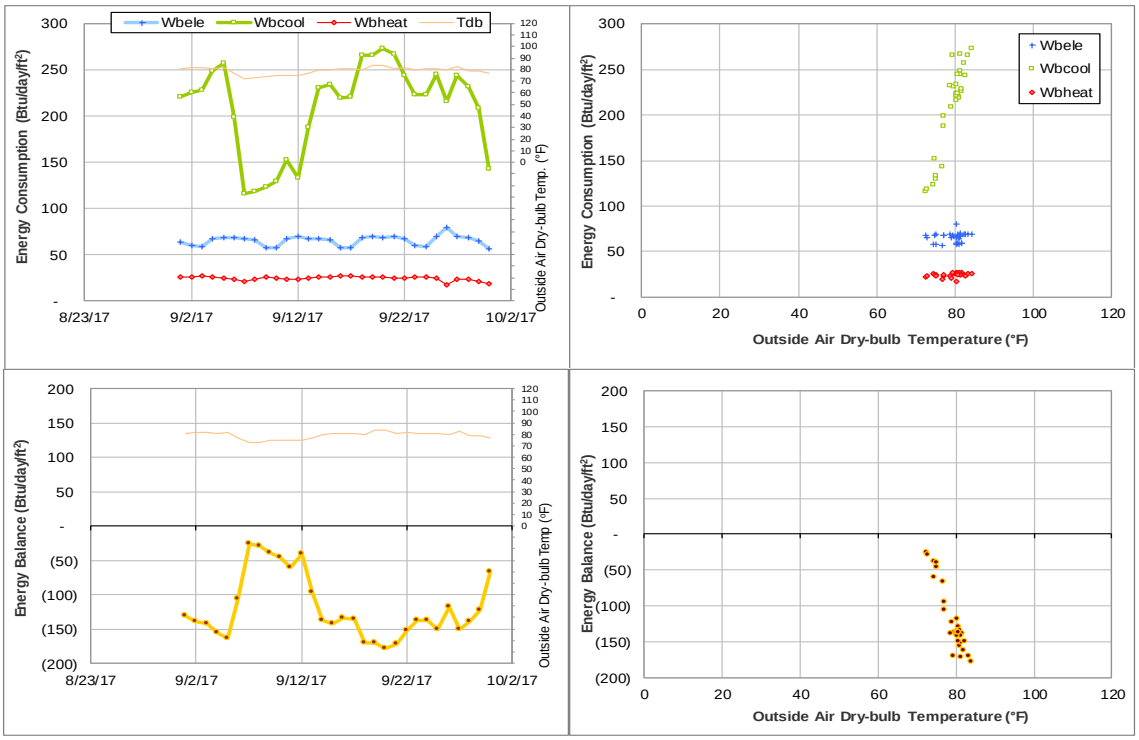


Figure IV-48 Milner Hall TAMU BLDG # 420 Energy Balance Plot during September 2017

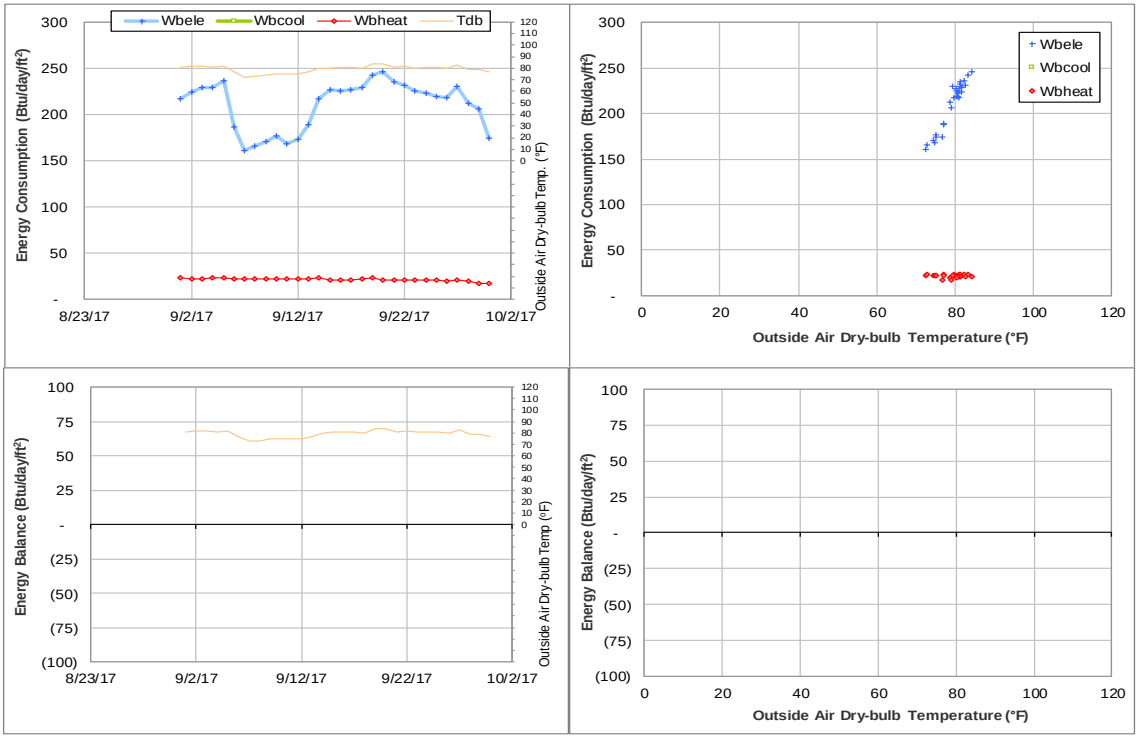


Figure IV-49 Walton Residence Hall TAMU BLDG # 422 Energy Balance Plot during September 2017

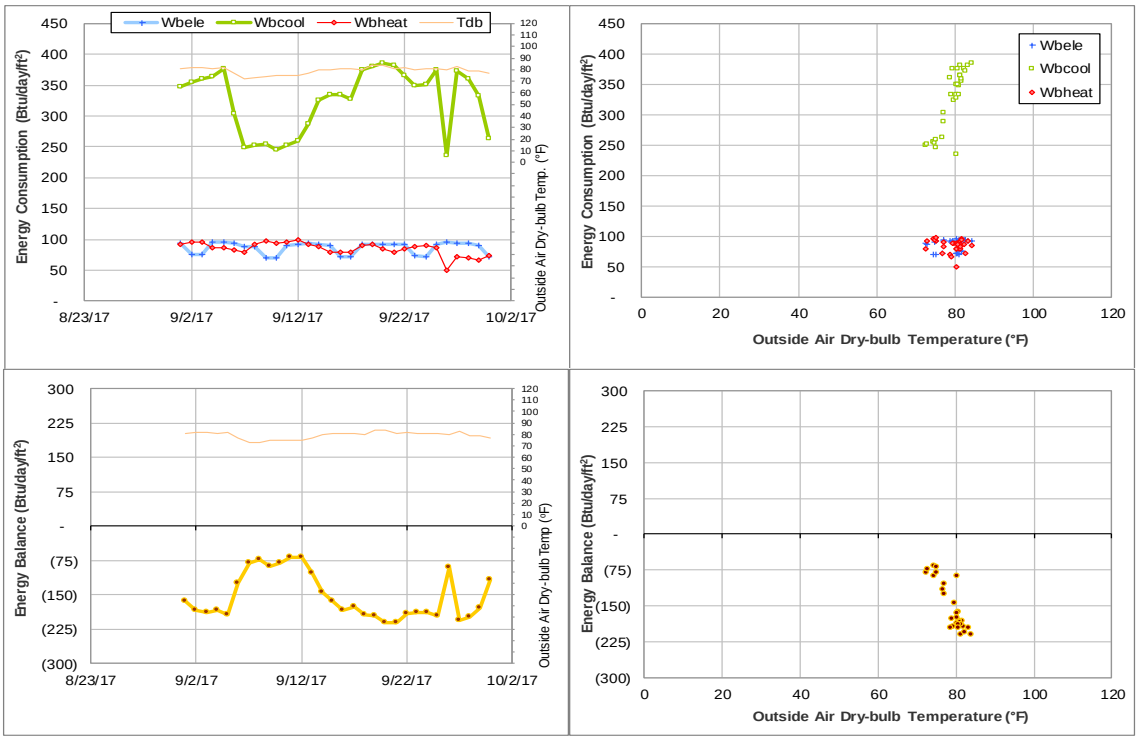


Figure IV-50 Hotard Hall TAMU BLDG # 424 Energy Balance Plot during September 2017

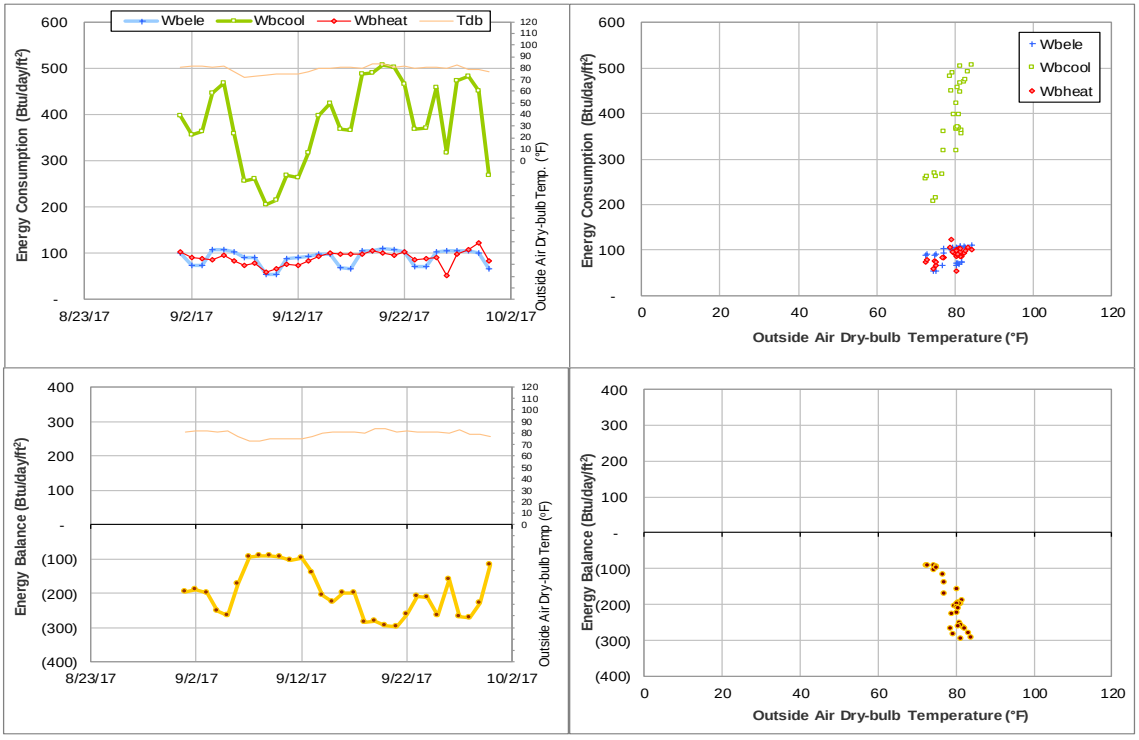


Figure IV-51 Henderson Hall TAMU BLDG # 425 Energy Balance Plot during September 2017

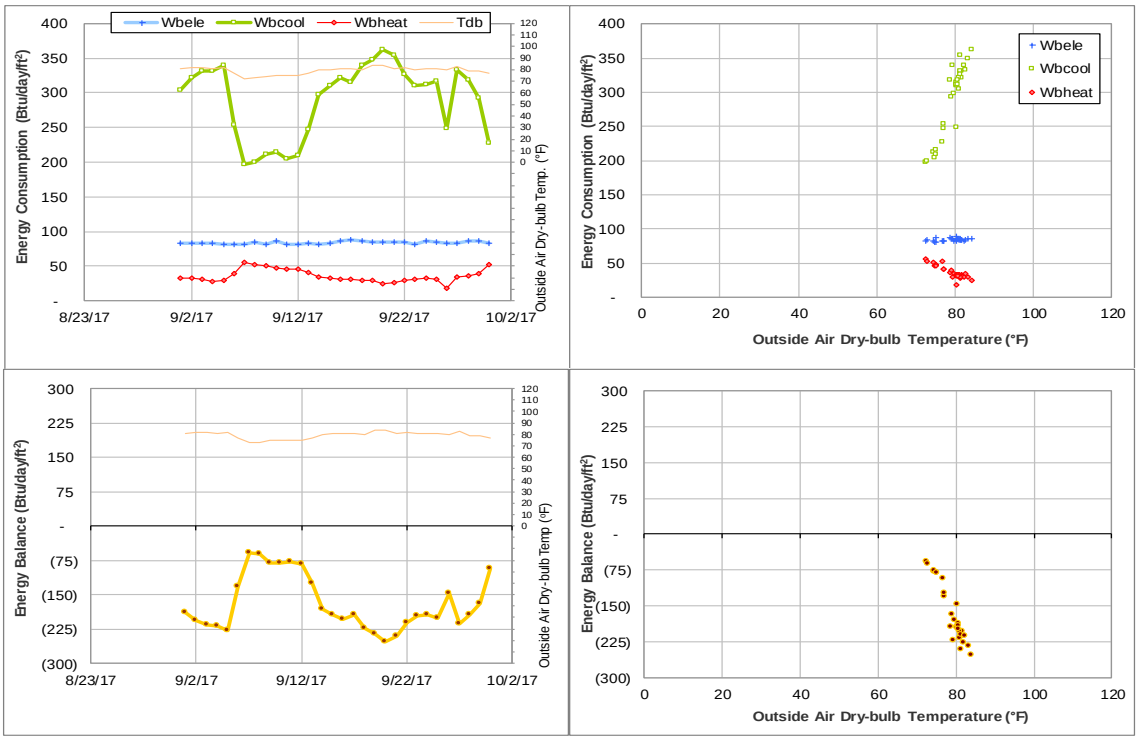


Figure IV-52 FHK Complex TAMU BLDG # 426 Energy Balance Plot during September 2017

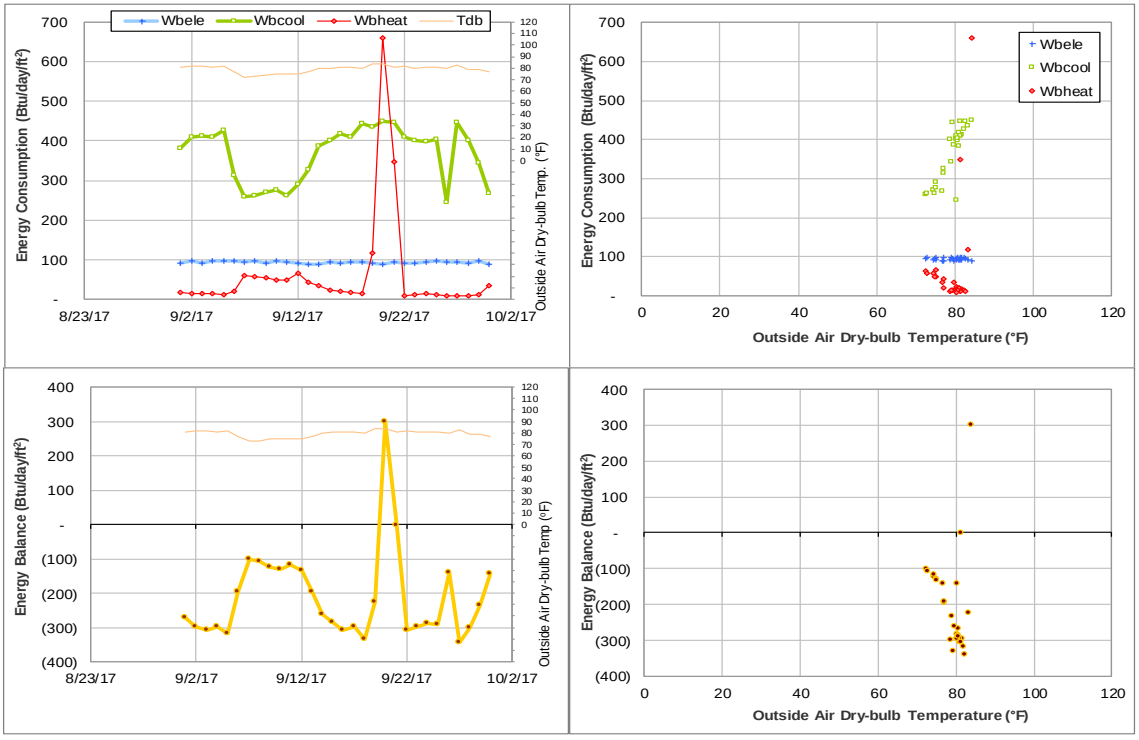


Figure IV-53 Schumacher Residence Hall TAMU BLDG # 430 Energy Balance Plot during September 2017

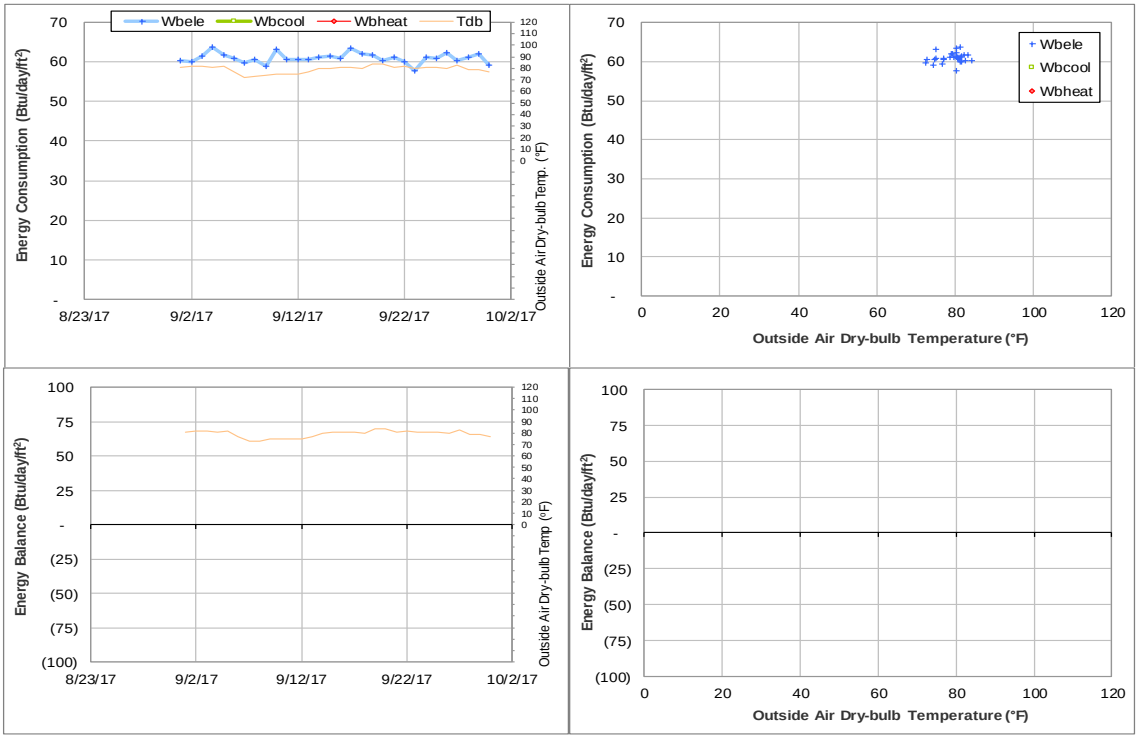


Figure IV-54 Mosher Commons Krueger Dunn Aston TAMU BLDG # 433, 440, 441, 442, and 447 Energy Balance Plot during September 2017

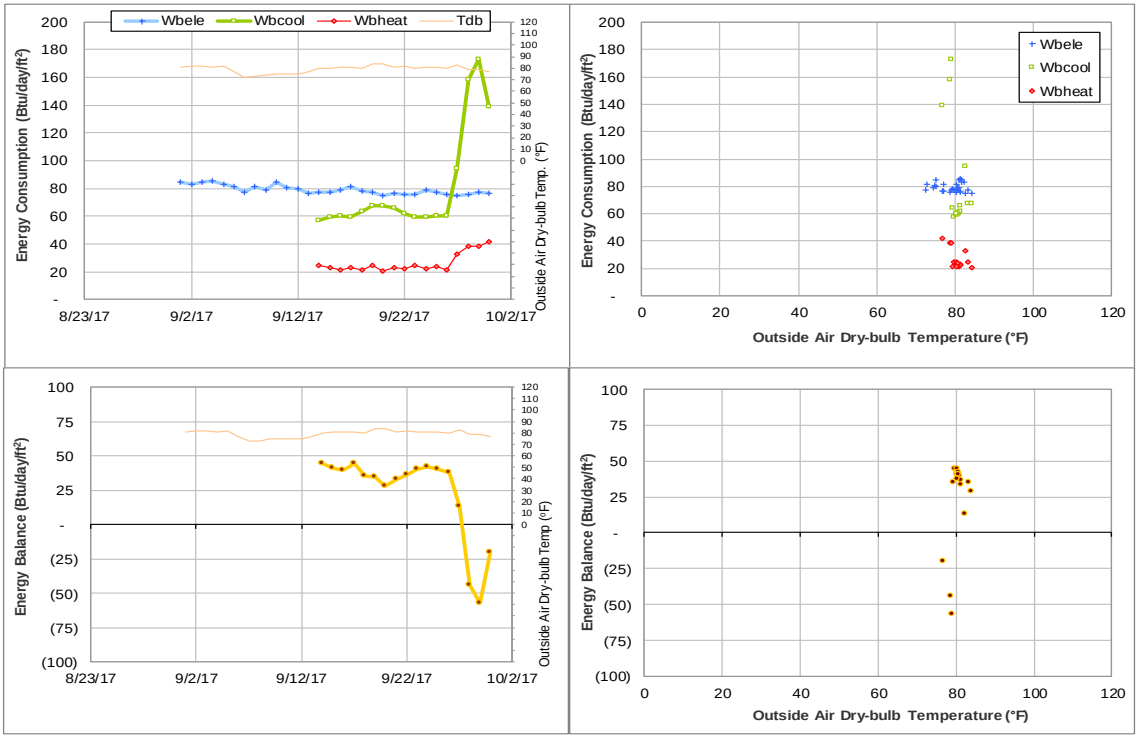


Figure IV-55 Mosher Residence Hall TAMU BLDG # 433 Energy Balance Plot during September 2017

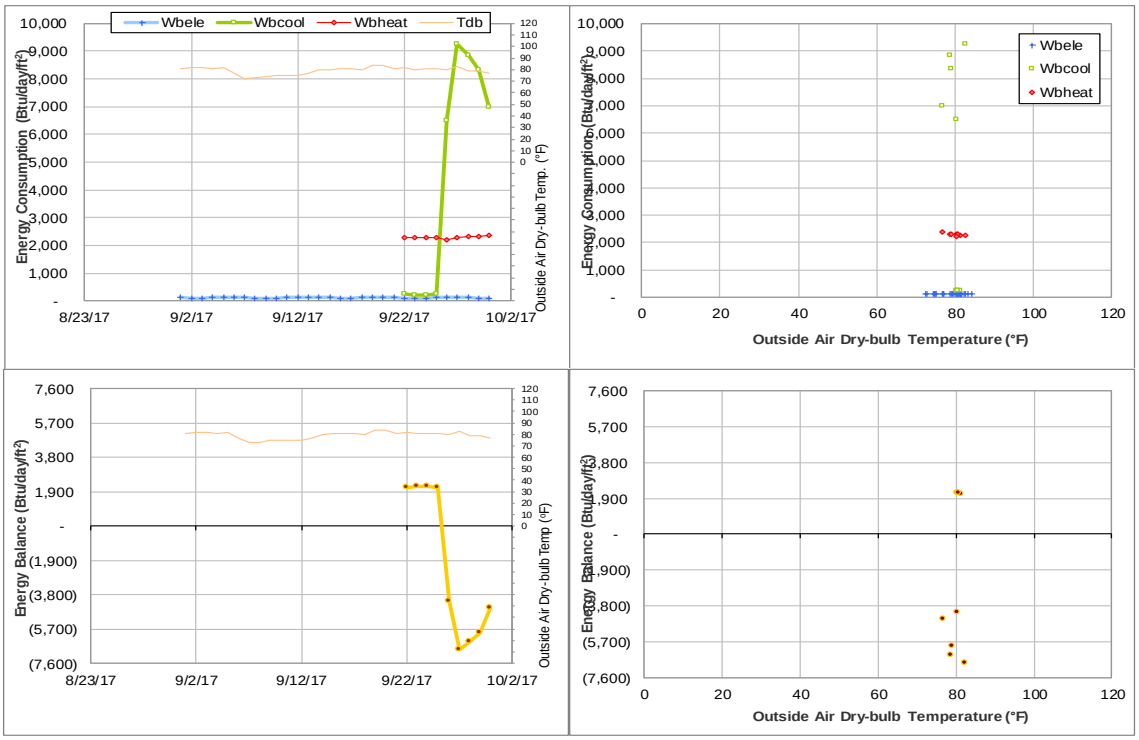


Figure IV-56 Commons Krueger TAMU BLDG # 440 and 441 Energy Balance Plot during September 2017

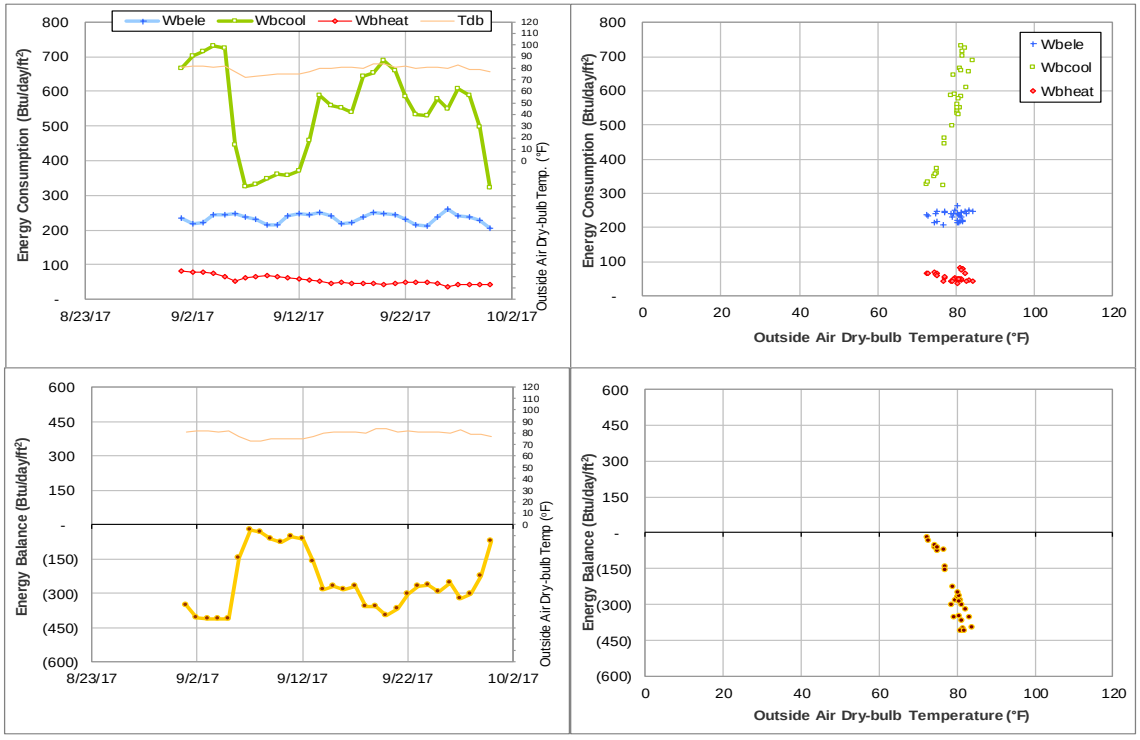


Figure IV-57 Commons Hall TAMU BLDG # 440 Energy Balance Plot during September 2017

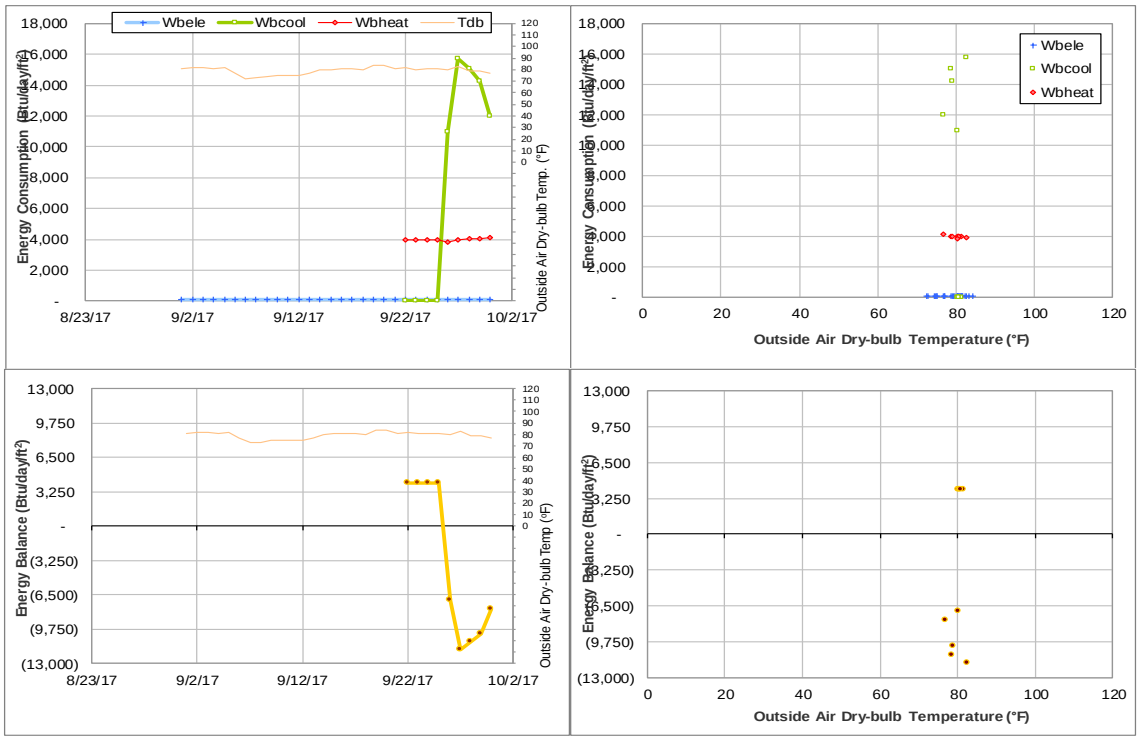


Figure IV-58 Krueger Residence Hall TAMU BLDG # 441 Energy Balance Plot during September 2017

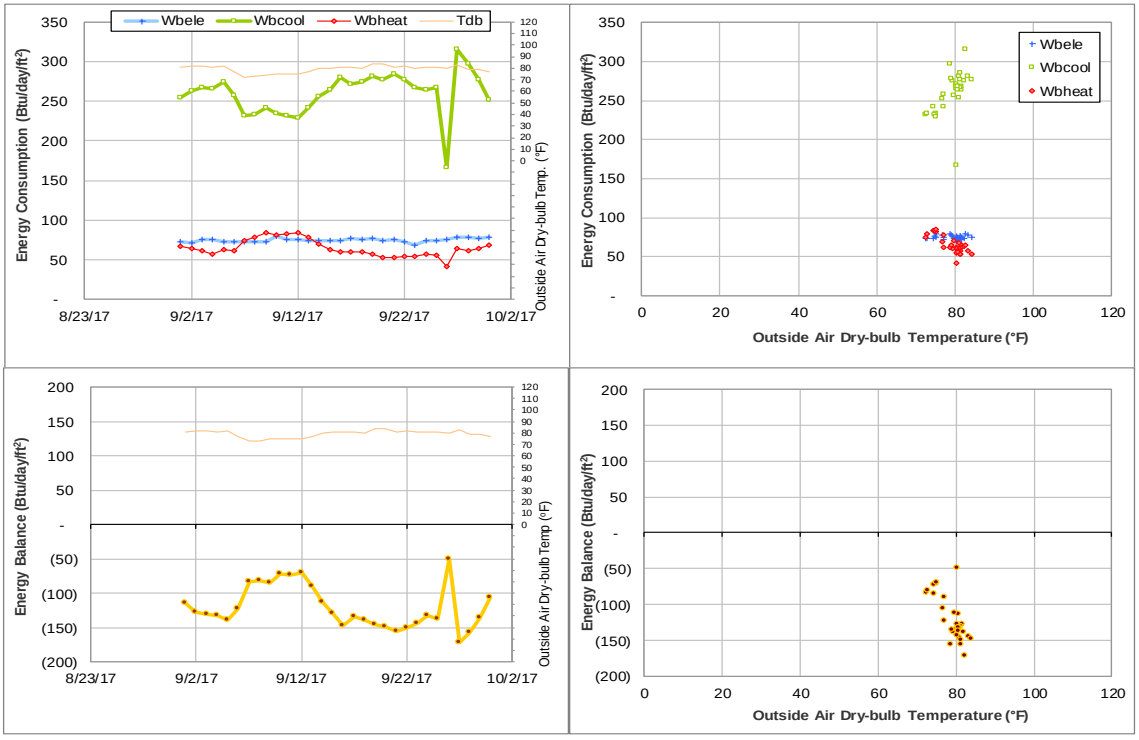


Figure IV-59 Dunn Residence Hall TAMU BLDG # 442 Energy Balance Plot during September 2017

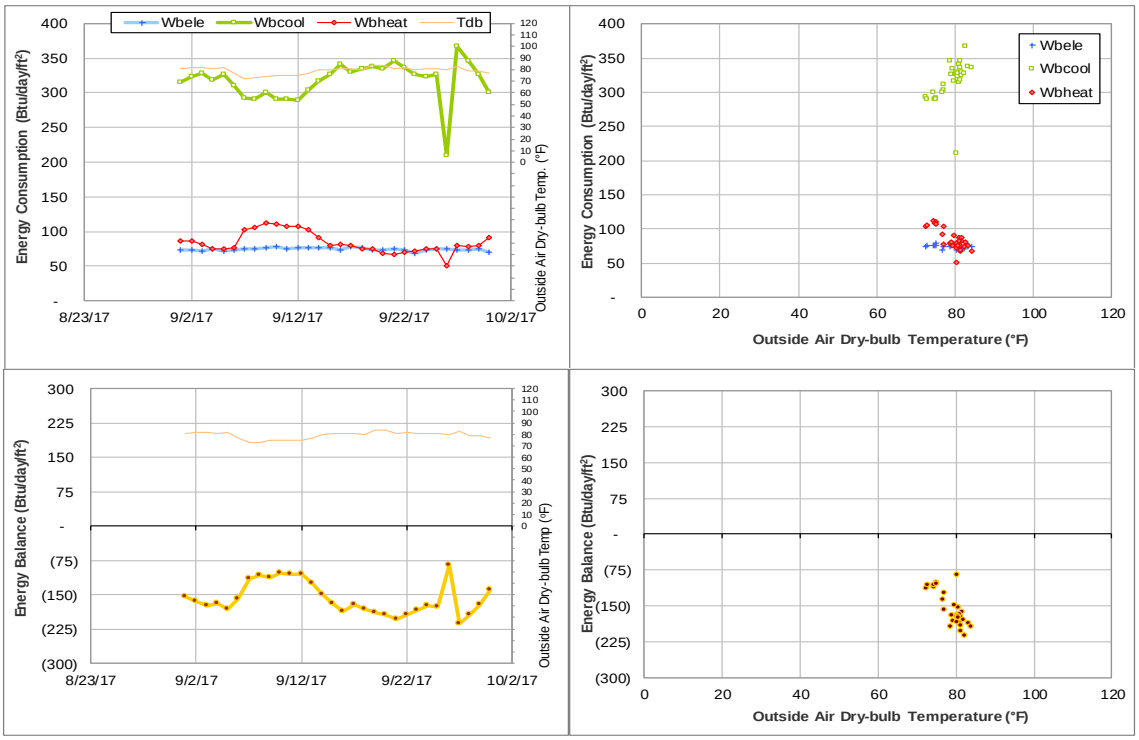


Figure IV-60 Aston Residence Hall TAMU BLDG # 447 Energy Balance Plot during September 2017

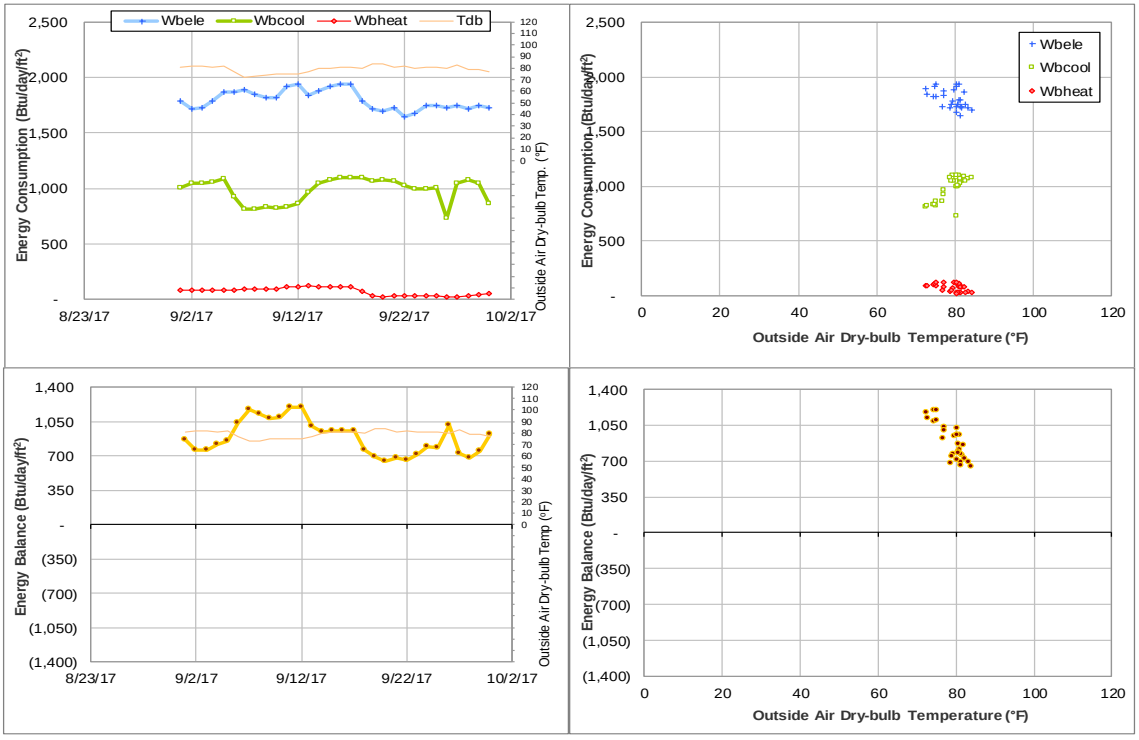


Figure IV-61 Luedecke Building (Cyclotron) TAMU BLDG # 434 Energy Balance Plot during September 2017

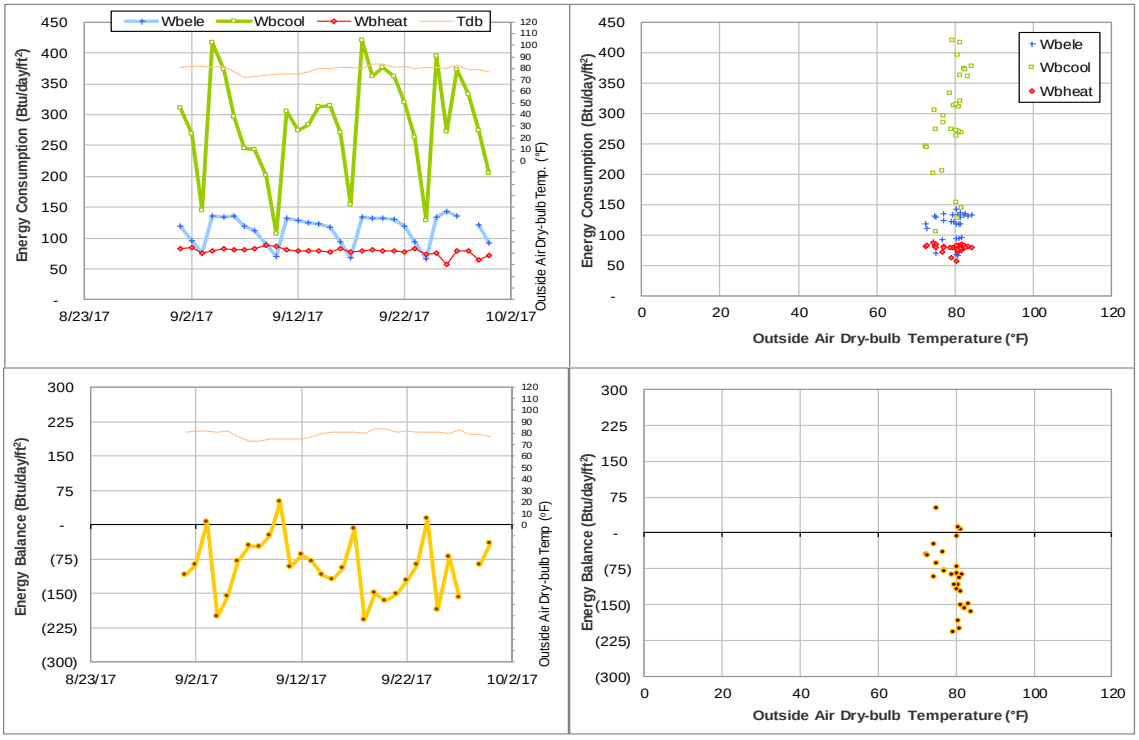


Figure IV-62 Harrington Education Center Office Tower TAMU BLDG # 435 Energy Balance Plot during September 2017

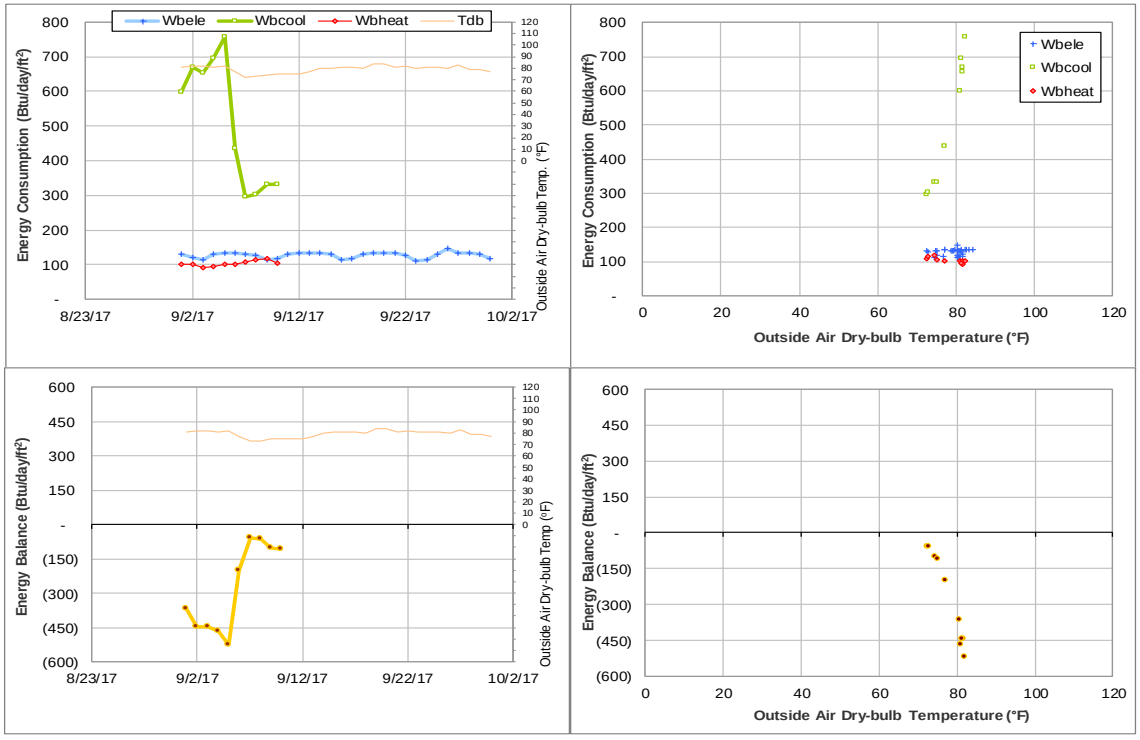


Figure IV-63 Reed-McDonald and Engineering Innovation Center TAMU BLDG # 436 and 499 Energy Balance Plot during September 2017

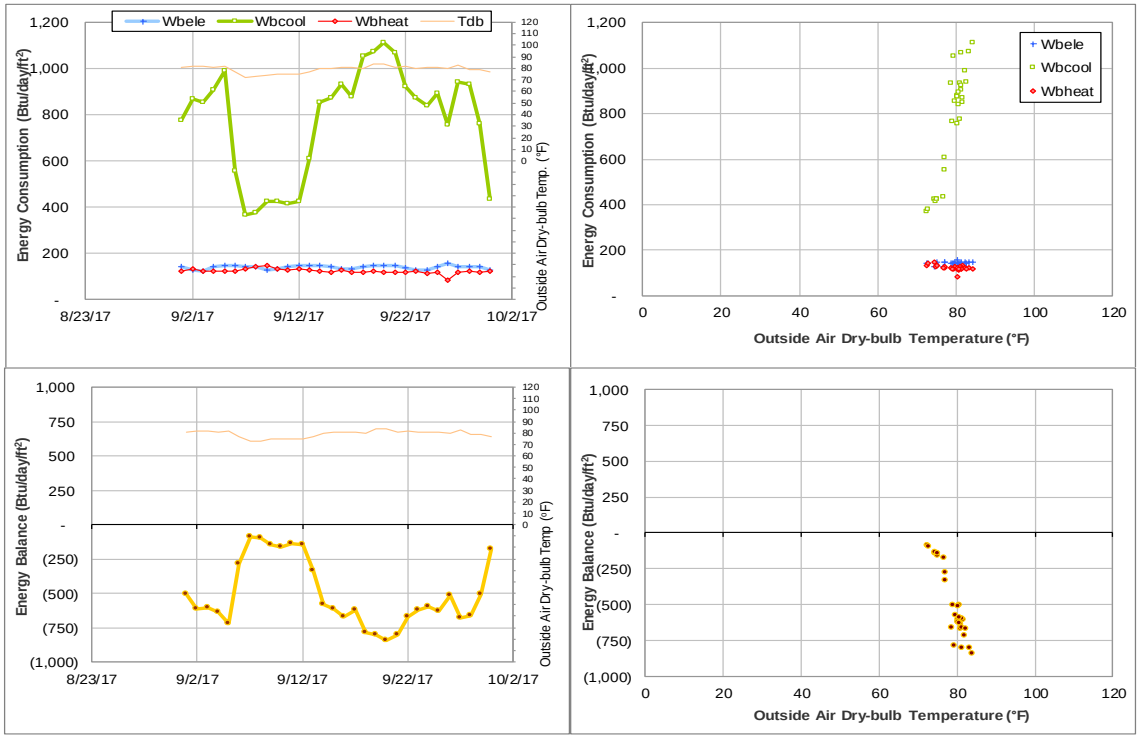


Figure IV-64 Reed-McDonald Building TAMU BLDG # 436 Energy Balance Plot during September 2017

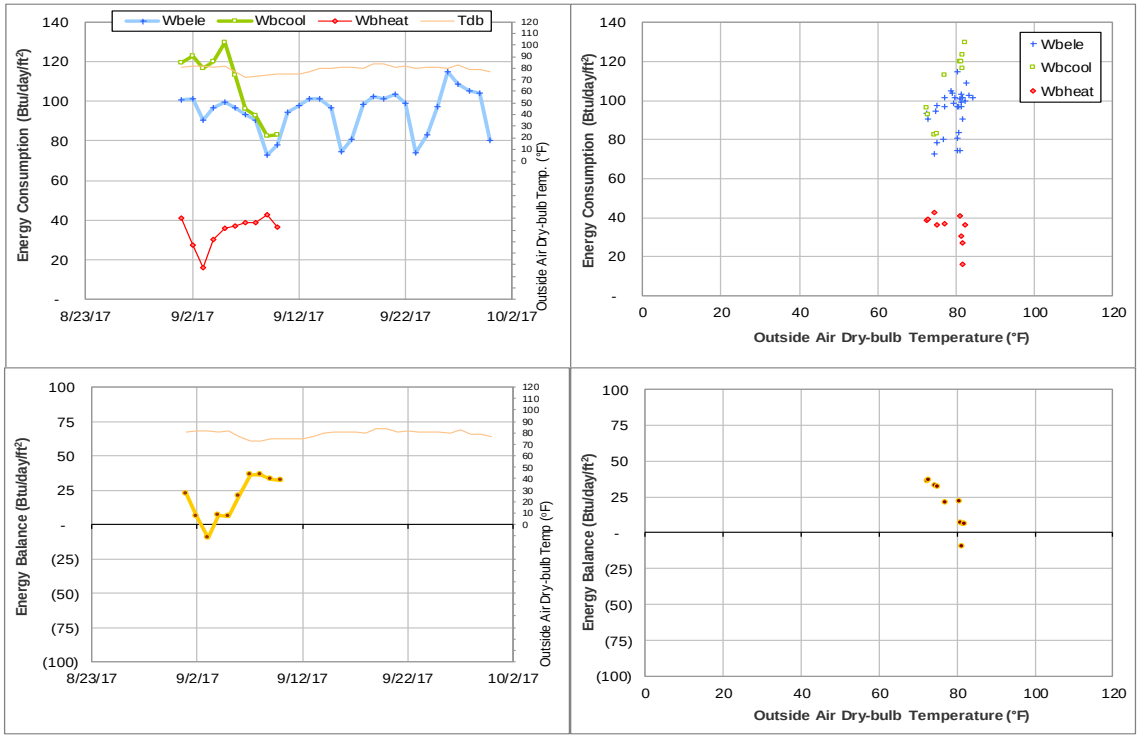


Figure IV-65 Engineering Innovation Center TAMU BLDG # 499 Energy Balance Plot during September 2017

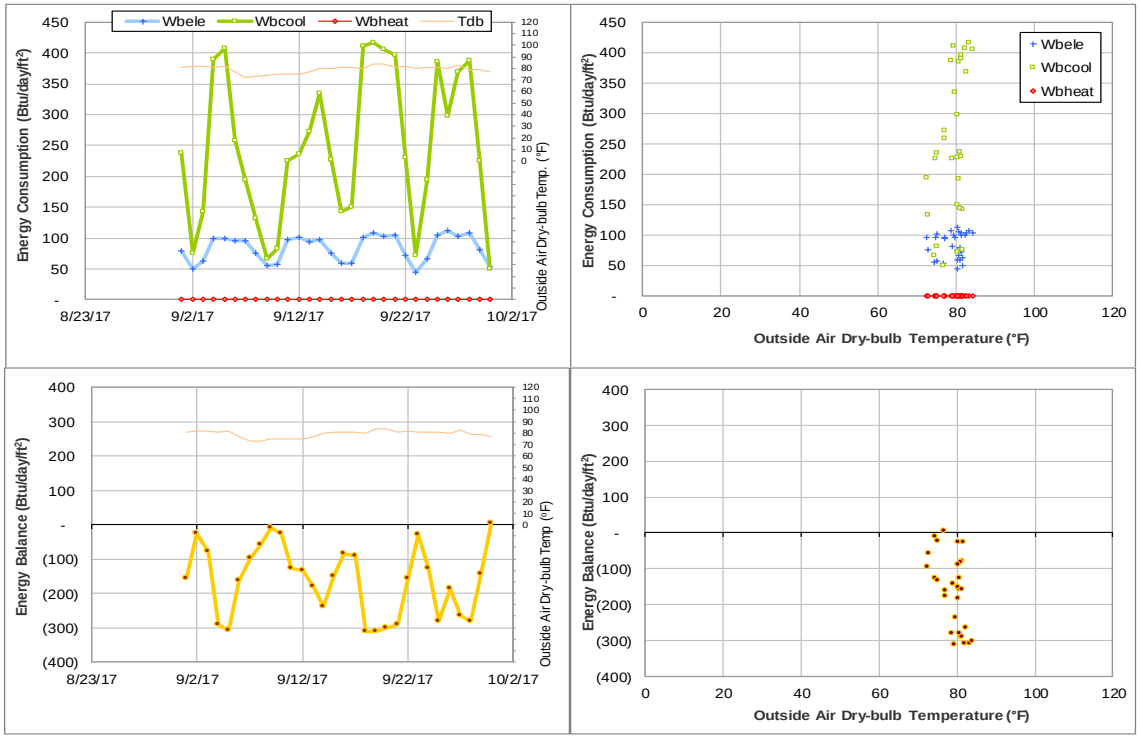


Figure IV-66 Harrington Education Center Classroom Building TAMU BLDG # 438 Energy Balance Plot during September 2017

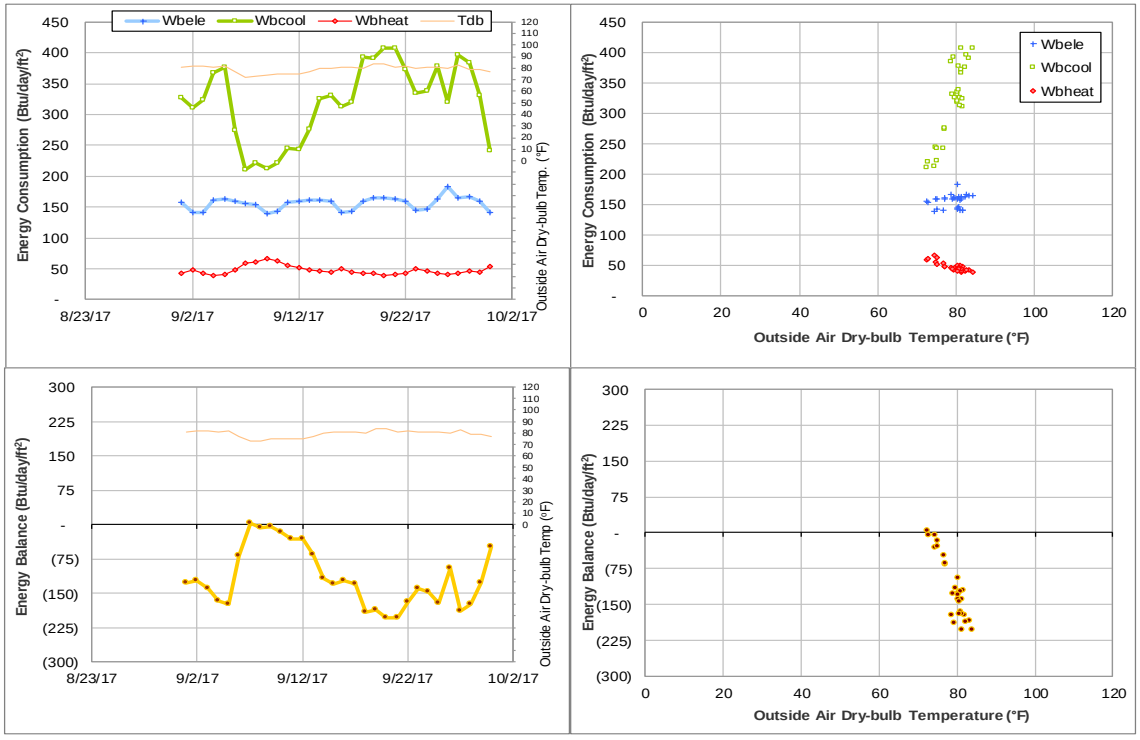


Figure IV-67 Oceanography & Meteorology Building TAMU BLDG # 443 Energy Balance Plot during September 2017

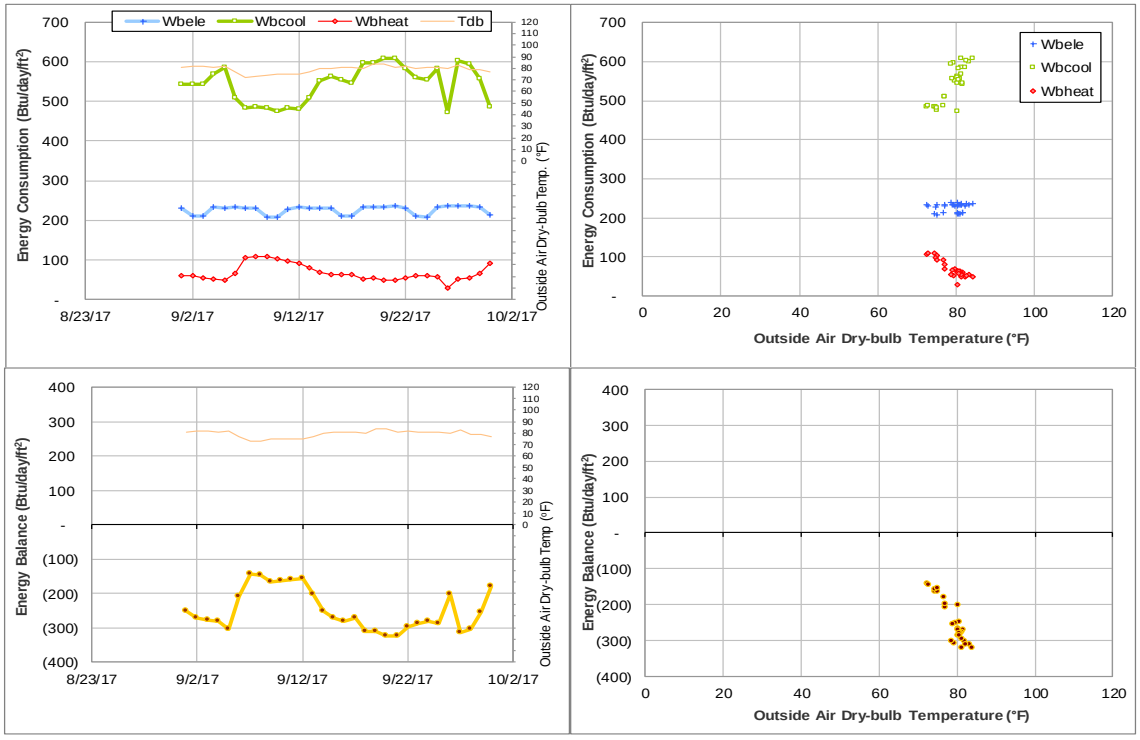


Figure IV-68 Peterson Building TAMU BLDG # 444 Energy Balance Plot during September 2017

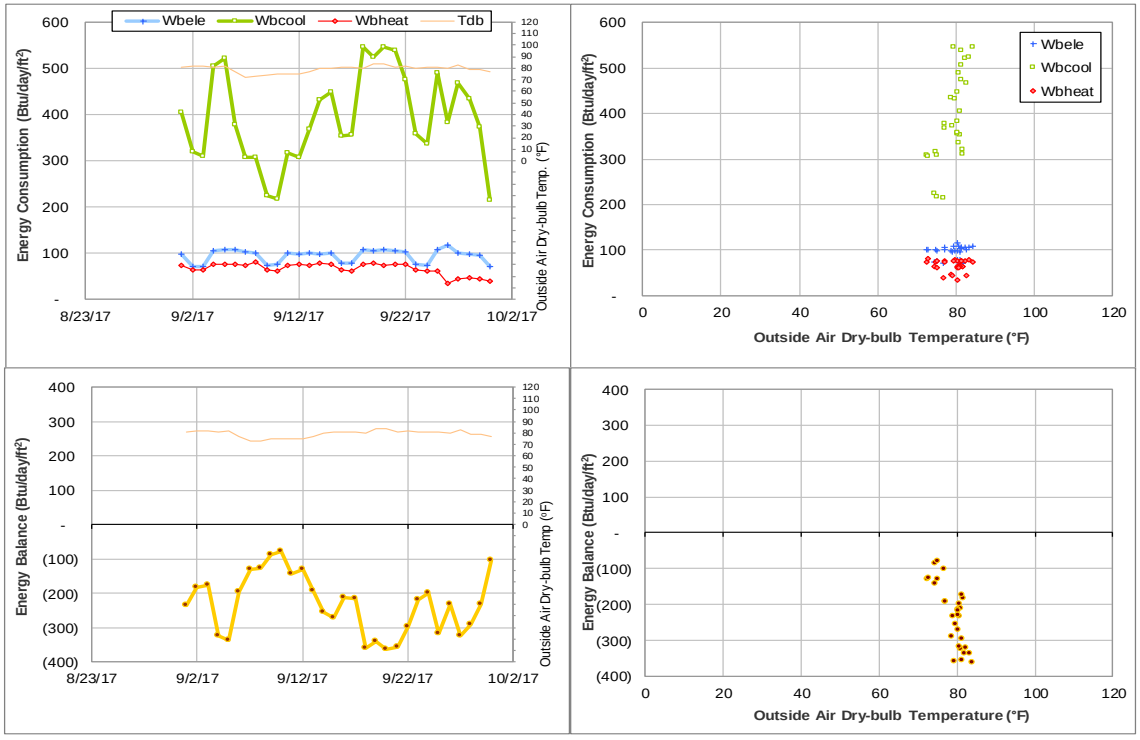


Figure IV-69 Teague Research Center and DPC Annex TAMU BLDG # 445 and 517 Energy Balance Plot during September 2017

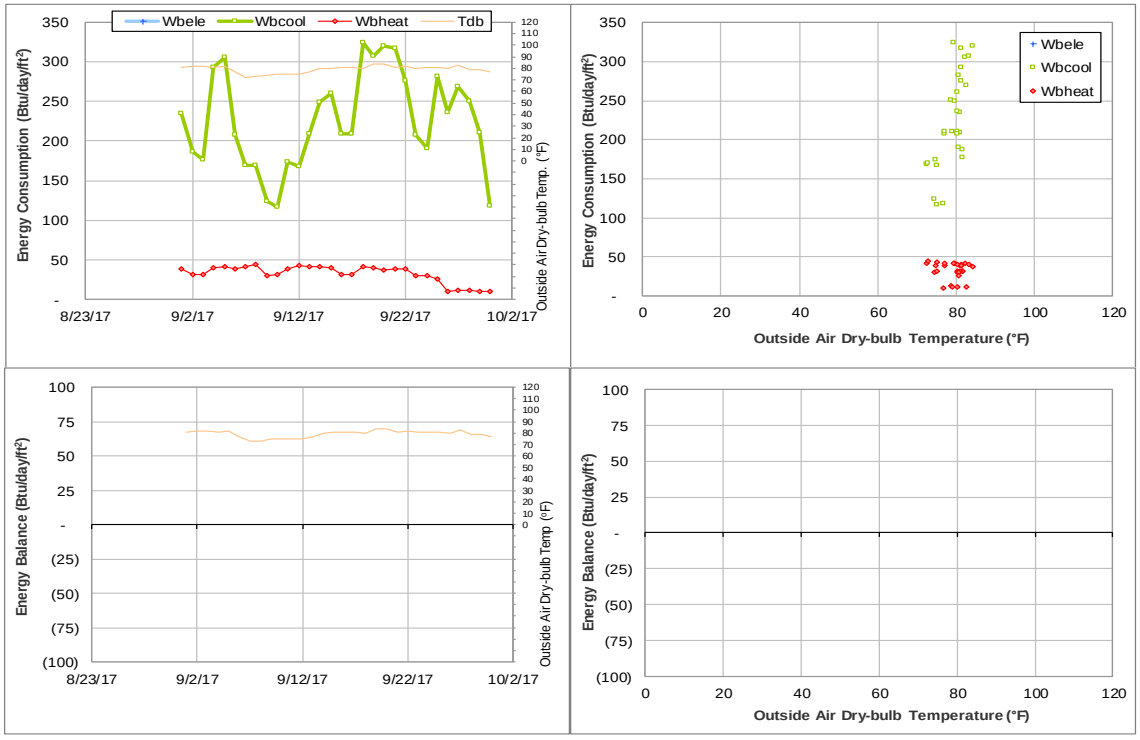


Figure IV-70 Teague Research Center TAMU BLDG # 445 Energy Balance Plot during September 2017

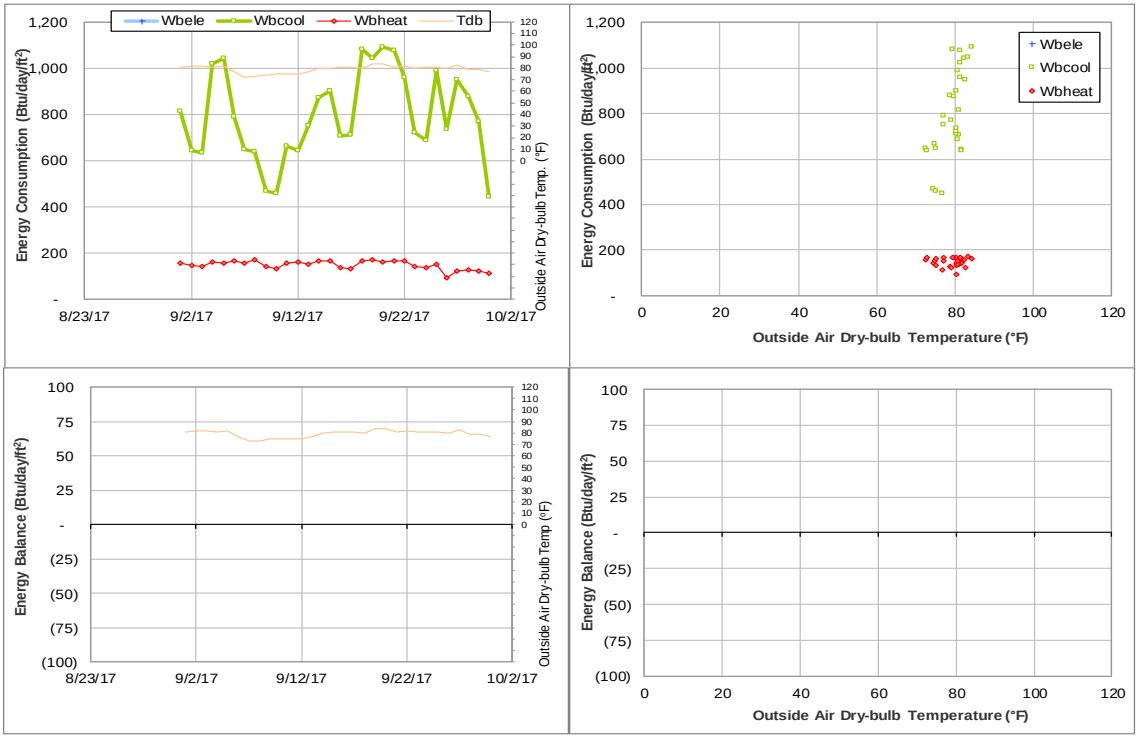


Figure IV-71 DPC Annex TAMU BLDG # 517 Energy Balance Plot during September 2017

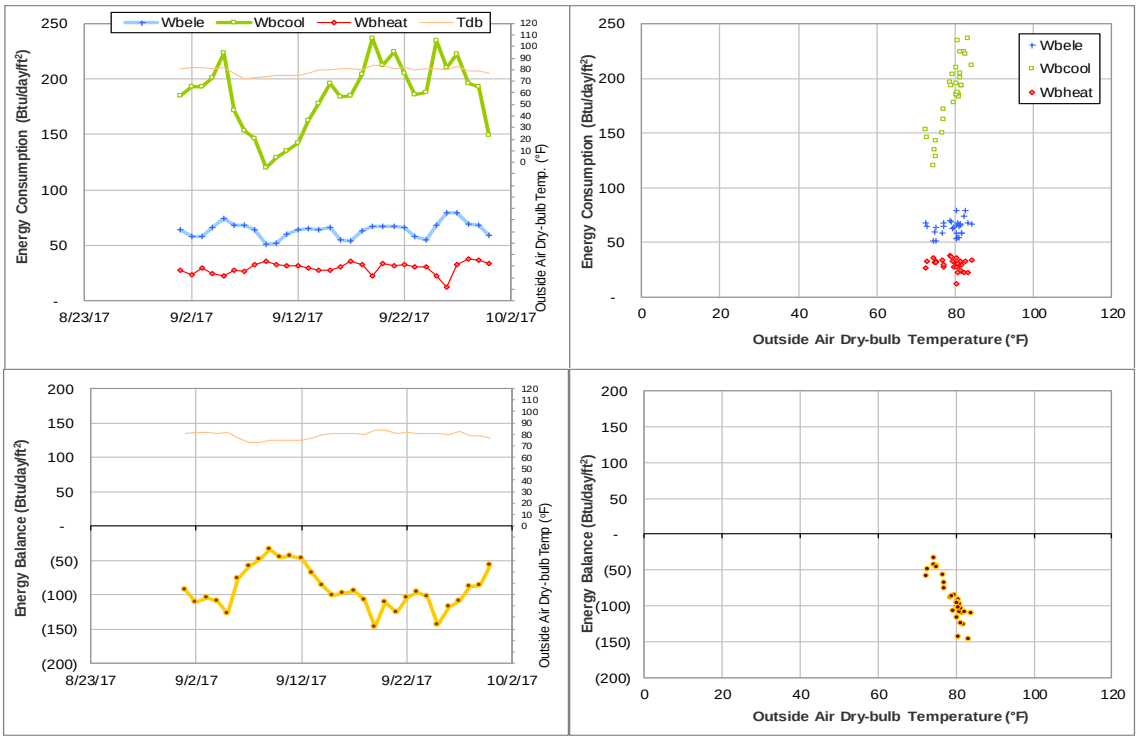


Figure IV-72 Rudder Tower and Theatre Complex TAMU BLDG # 446 Energy Balance Plot during September 2017

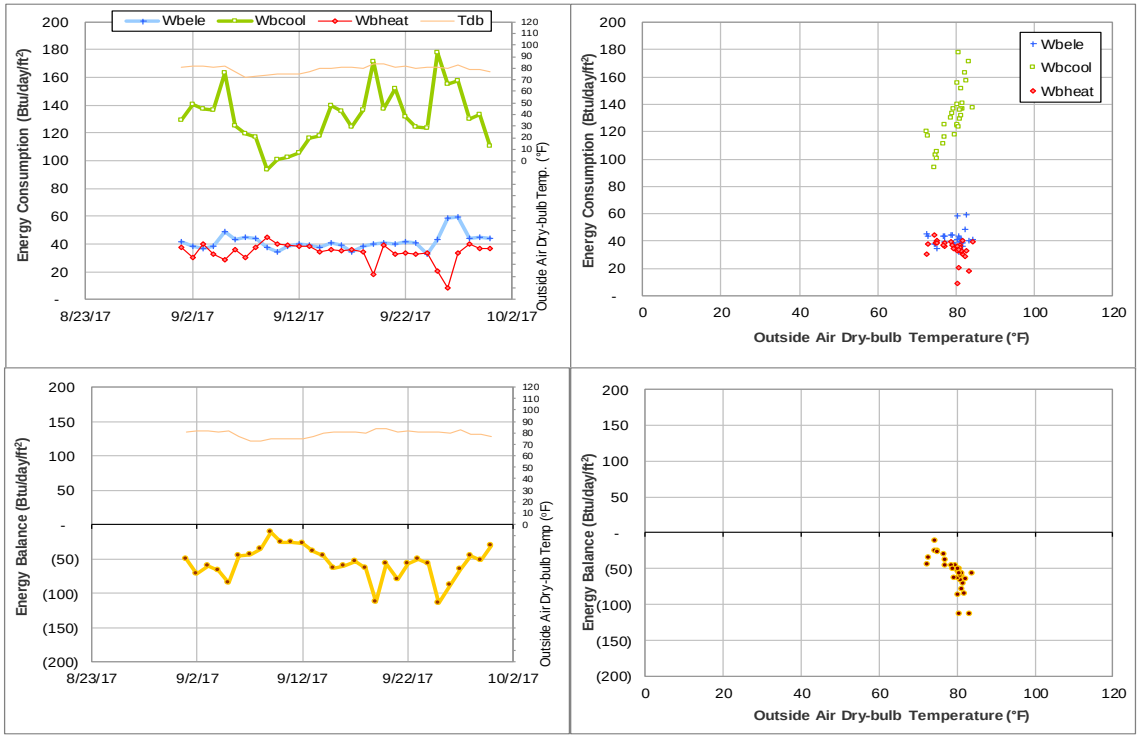


Figure IV-73 Rudder Theatre Complex TAMU BLDG # 446 Energy Balance Plot during September 2017

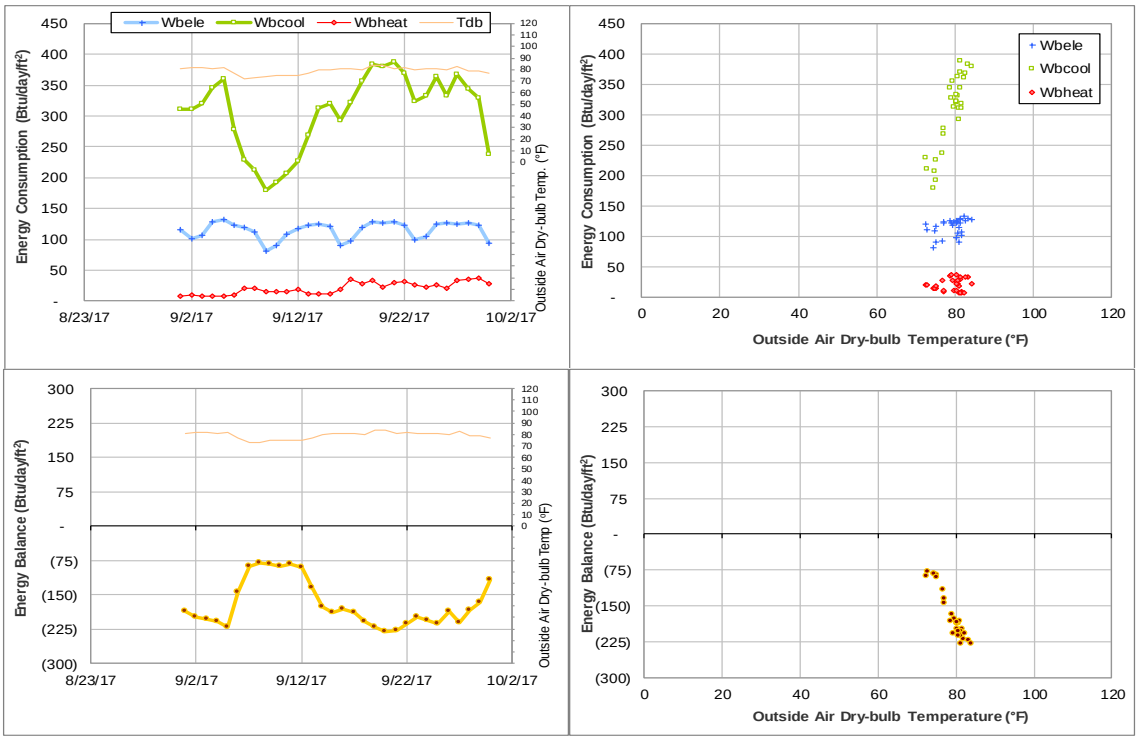


Figure IV-74 Rudder Tower TAMU BLDG # 446 Energy Balance Plot during September 2017

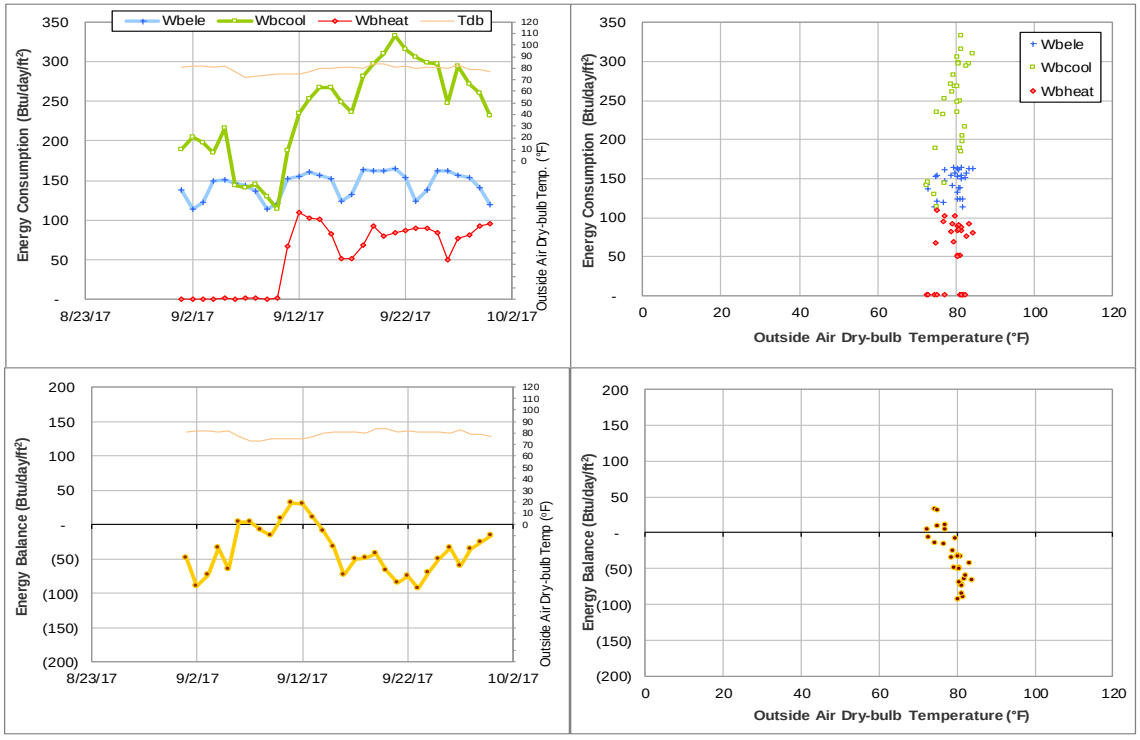


Figure IV-75 Adams Band Hall TAMU BLDG # 448 Energy Balance Plot during September 2017

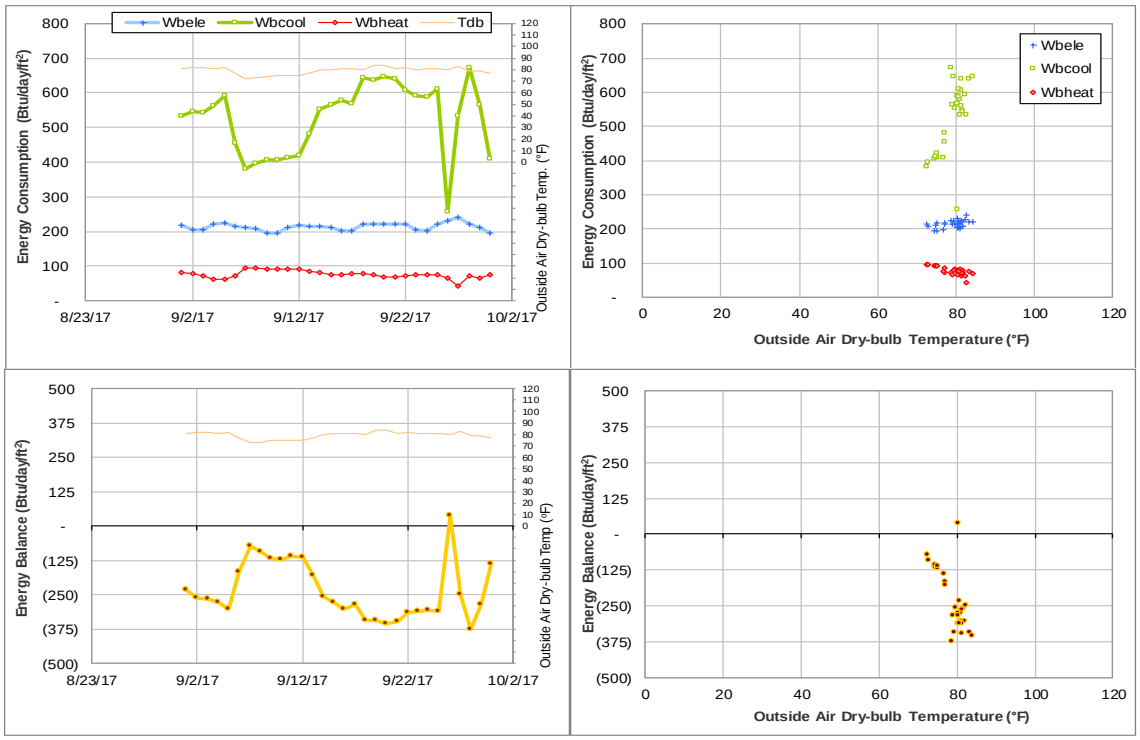


Figure IV-76 Biological Sciences Building - West TAMU BLDG # 449 Energy Balance Plot during September 2017

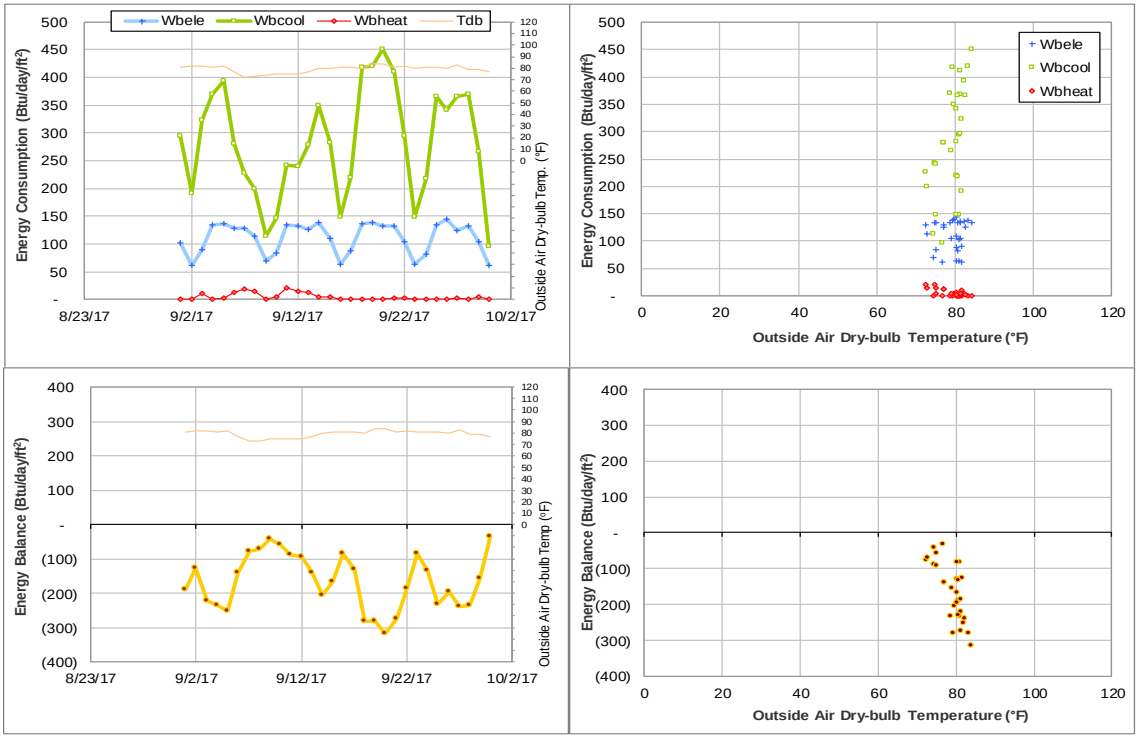


Figure IV-77 Duncan Dining Hall TAMU BLDG # 450 Energy Balance Plot during September 2017

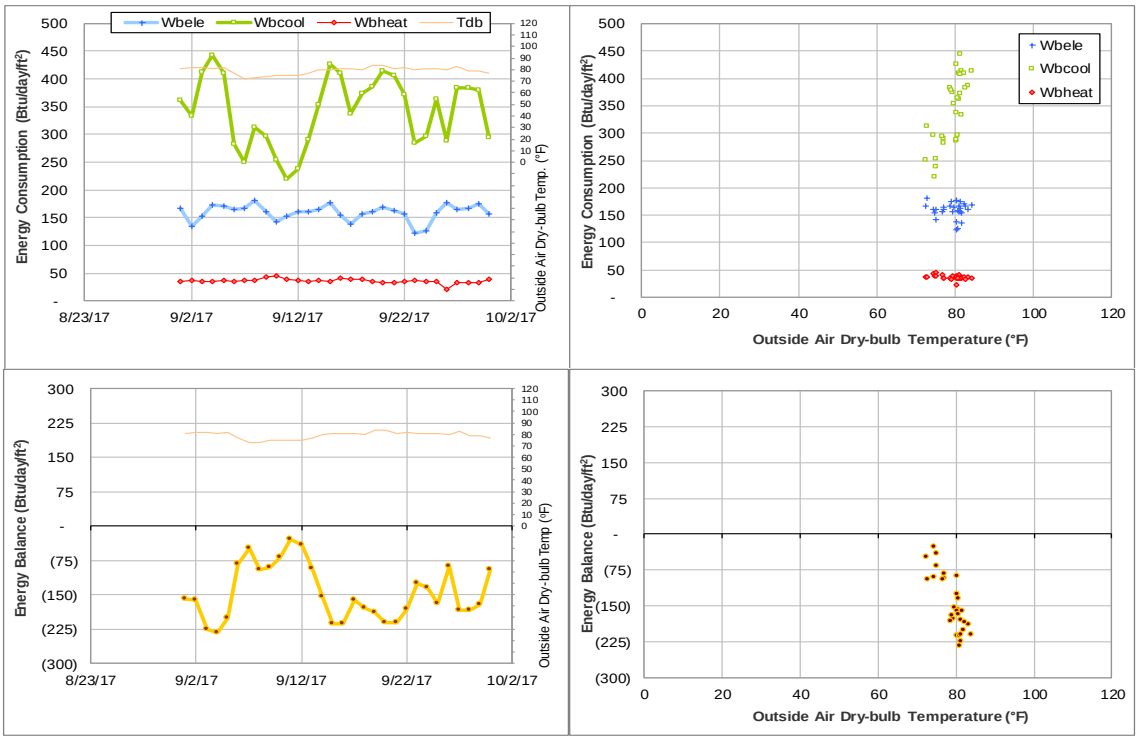


Figure IV-78 MSC TAMU BLDG # 454 Energy Balance Plot during September 2017

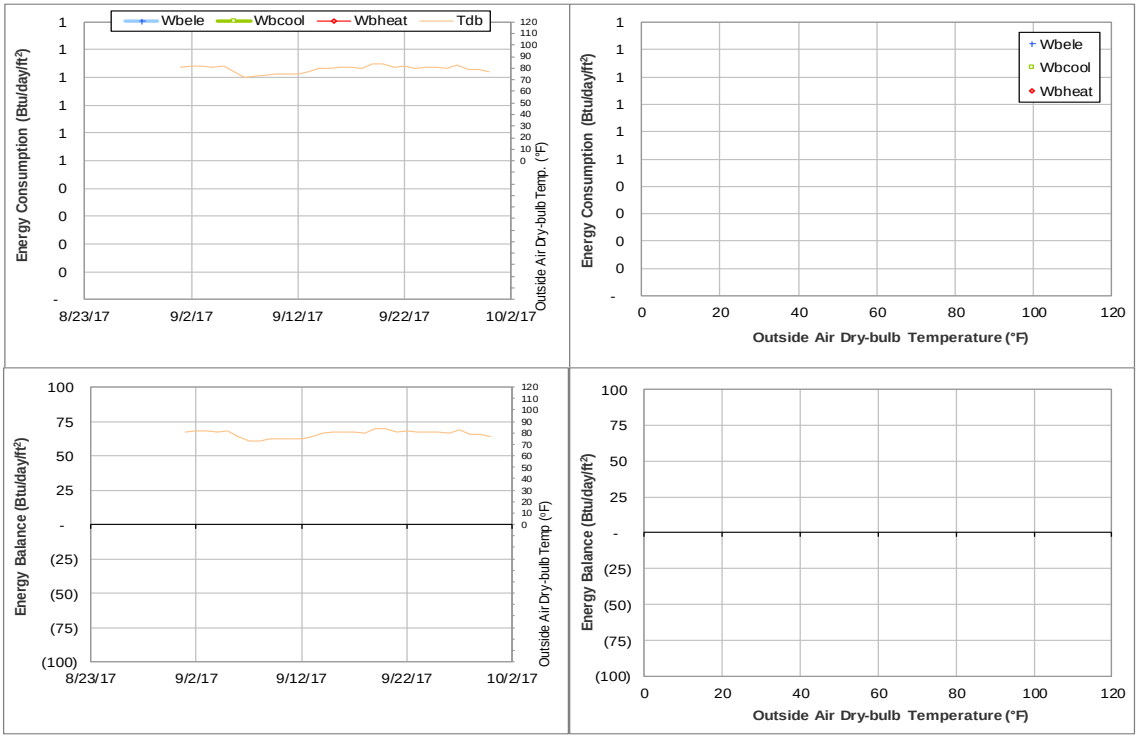


Figure IV-79 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during September 2017

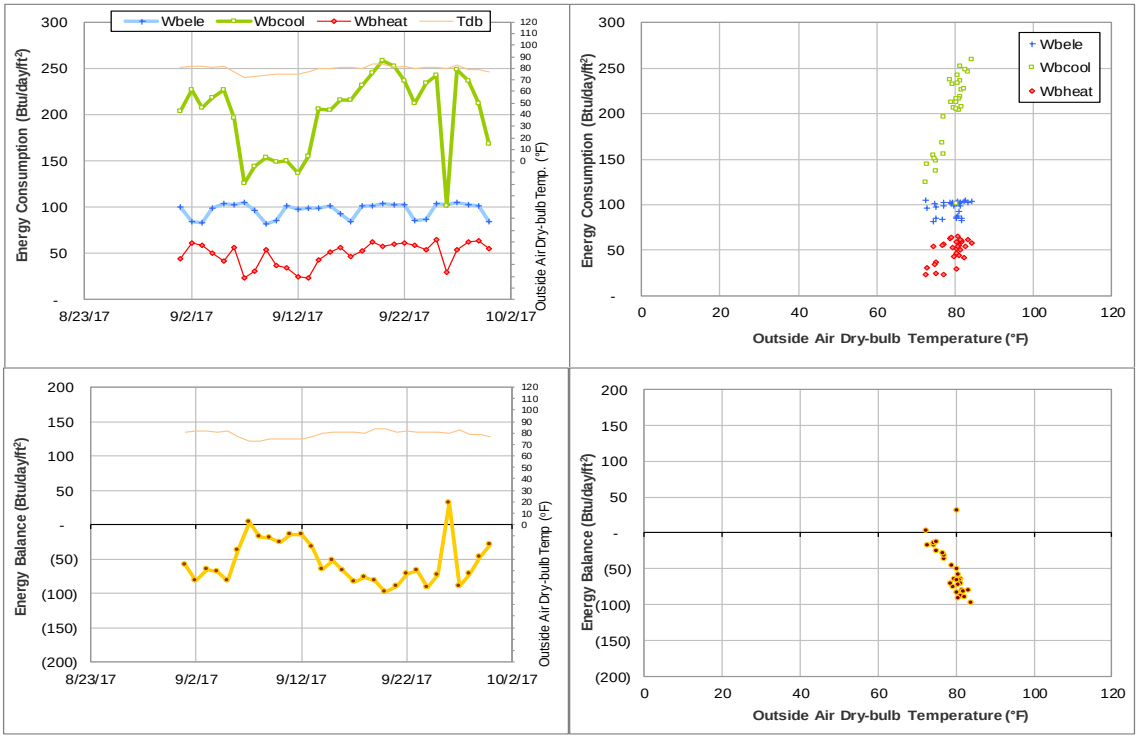


Figure IV-80 TAES Annex Building TAMU BLDG # 457 Energy Balance Plot during September 2017

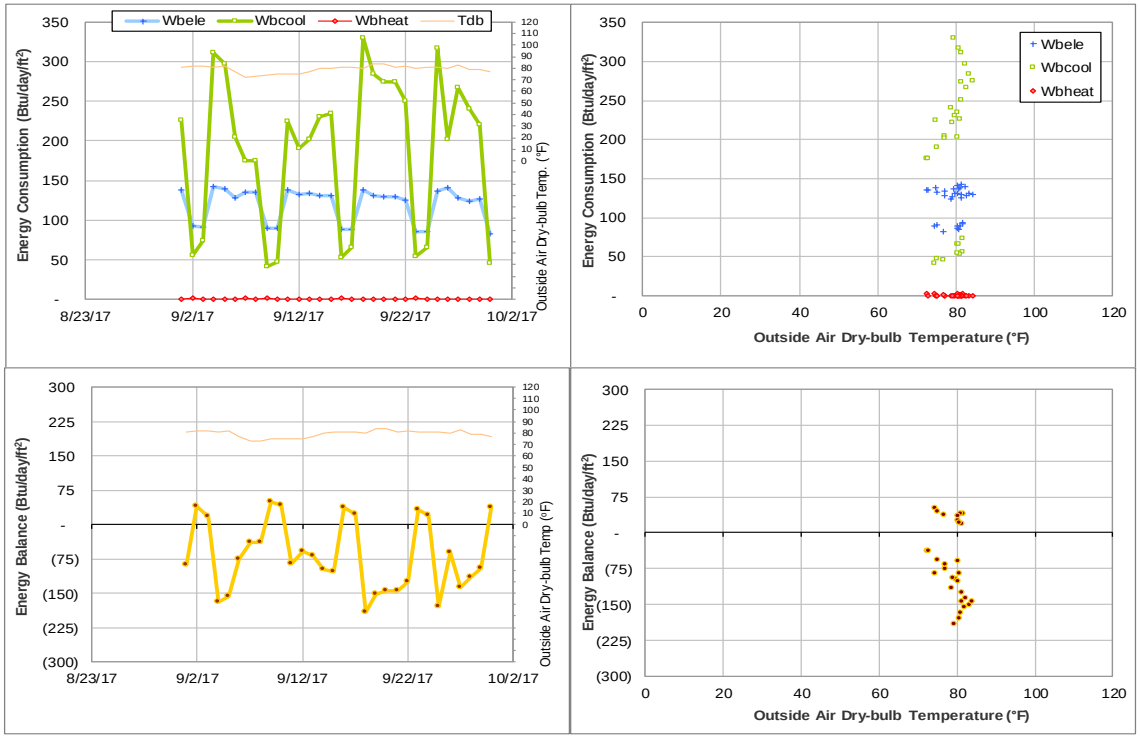


Figure IV-81 Coke Building TAMU BLDG # 461 Energy Balance Plot during September 2017

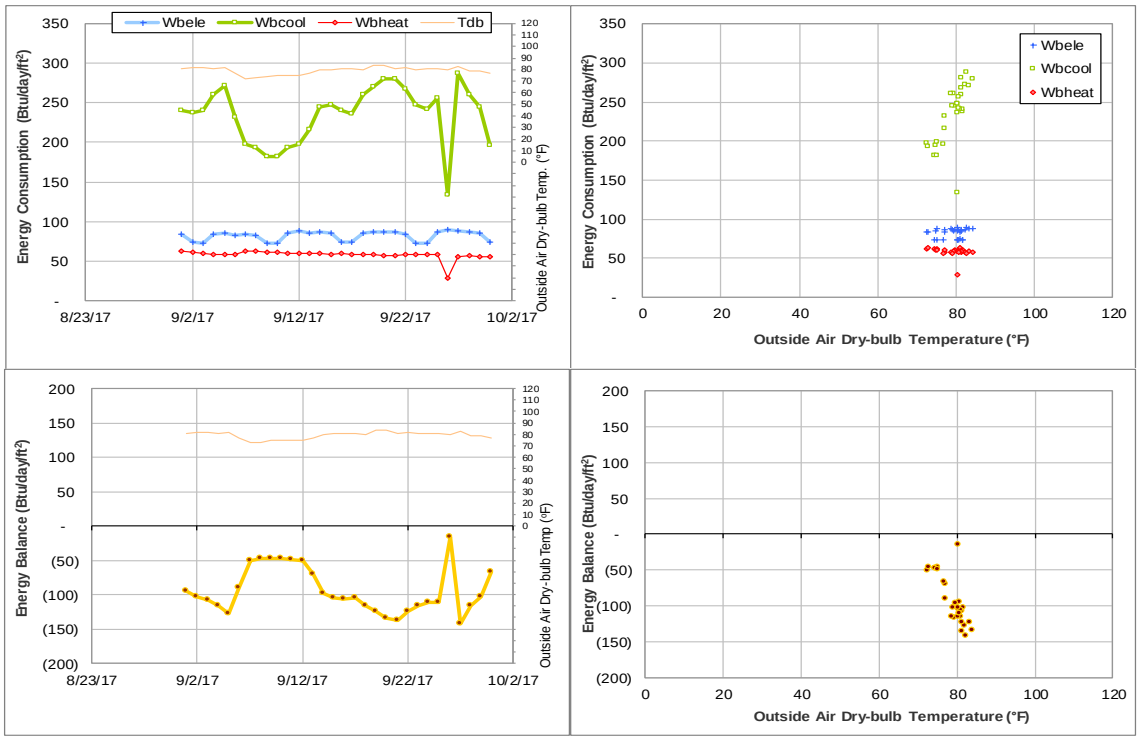


Figure IV-82 Academic Building TAMU BLDG # 462 Energy Balance Plot during September 2017

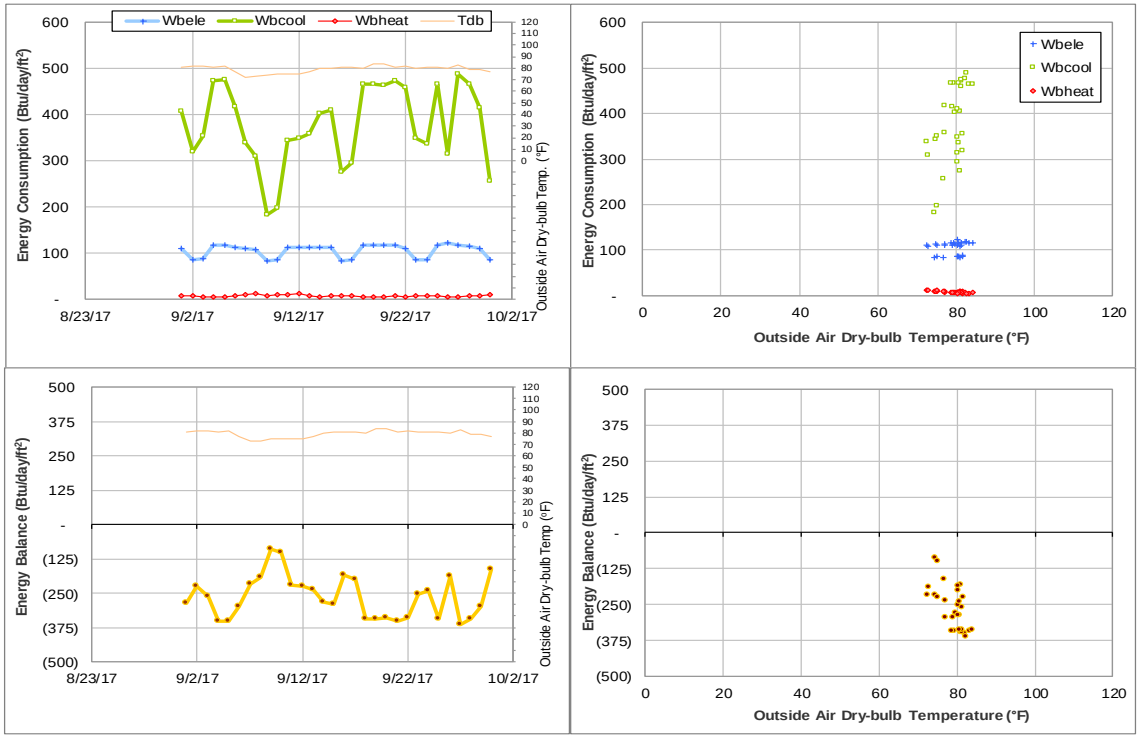


Figure IV-83 Psychology Building TAMU BLDG # 463 Energy Balance Plot during September 2017

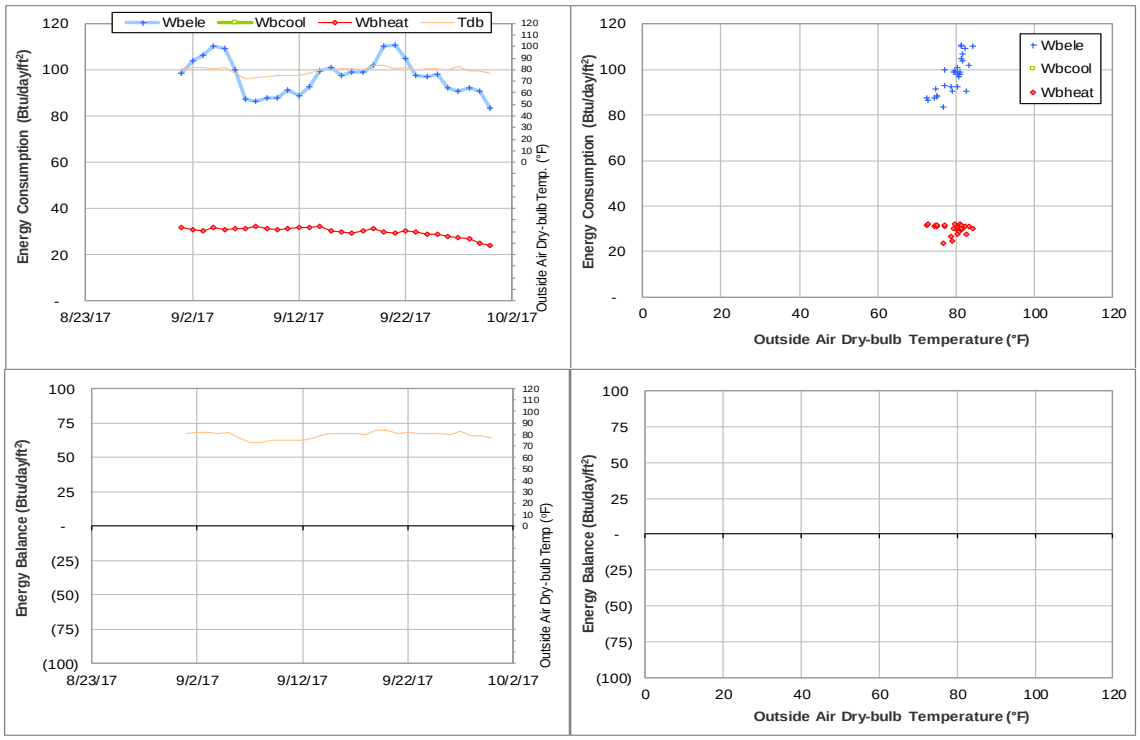


Figure IV-84 State Chemist Building TAMU BLDG # 464 Energy Balance Plot during September 2017

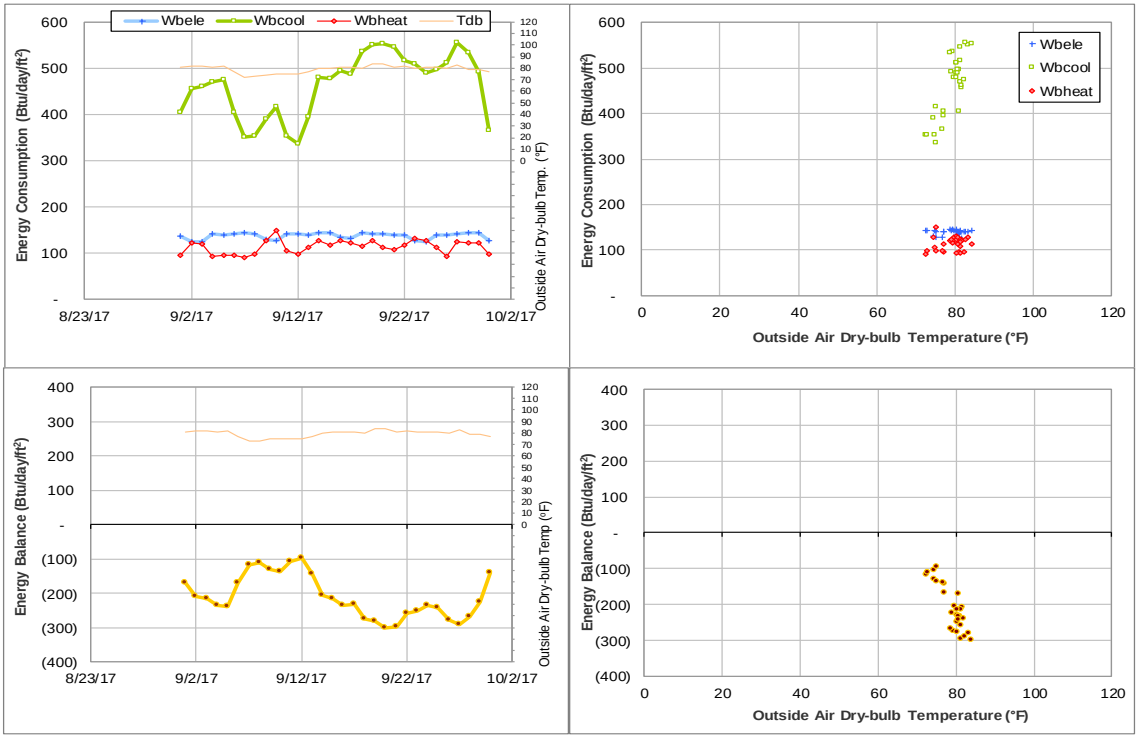


Figure IV-85 Butler Hall TAMU BLDG # 465 Energy Balance Plot during September 2017

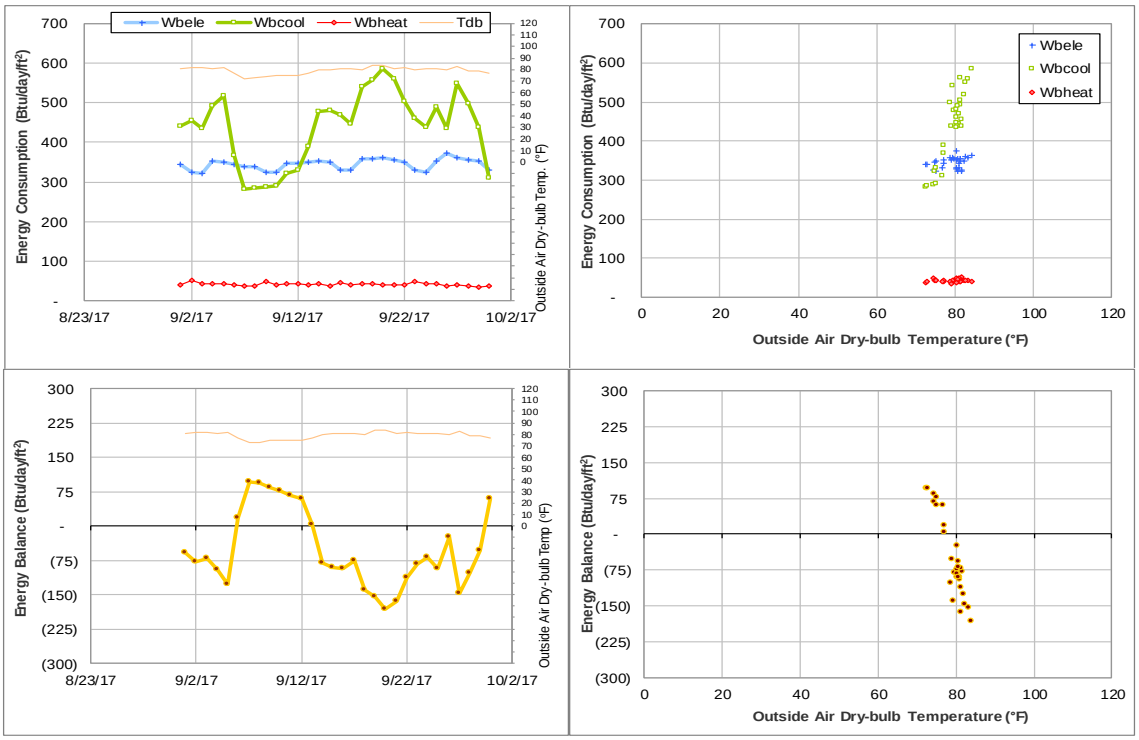


Figure IV-86 Biological Sciences Building - East TAMU BLDG # 467 Energy Balance Plot during September 2017

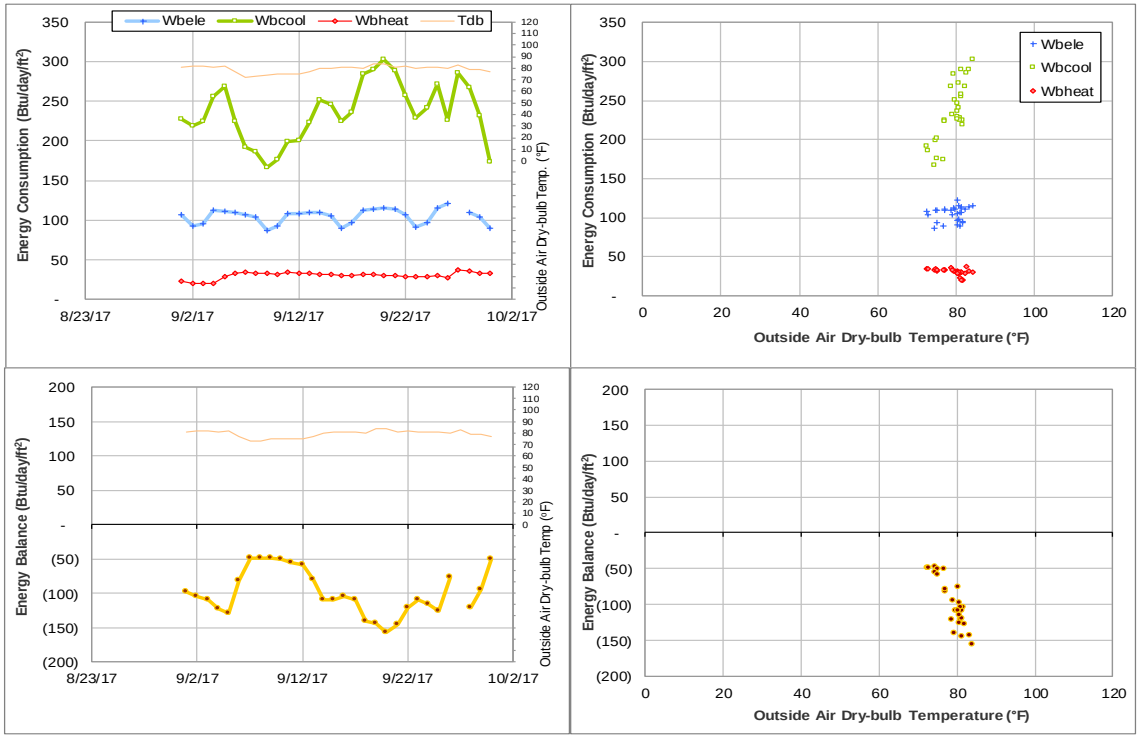


Figure IV-87 Evans Library TAMU BLDG # 468 Energy Balance Plot during September 2017

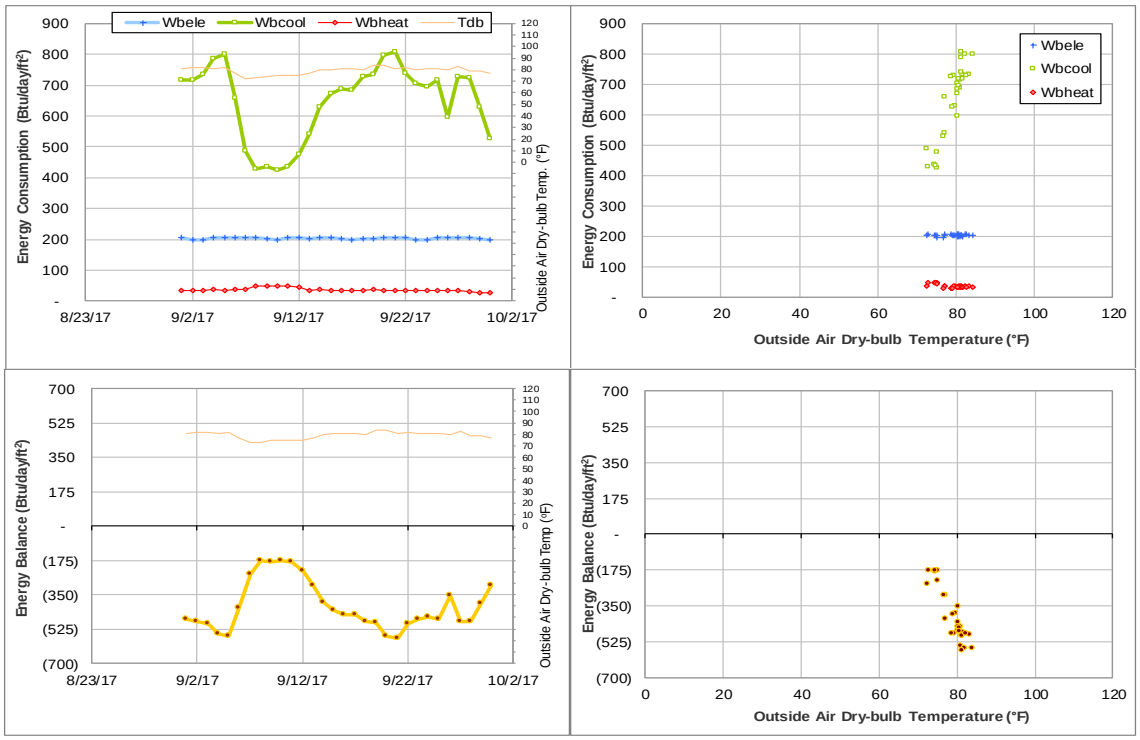


Figure IV-88 Central Campus Parking Garage TAMU BLDG # 469 Energy Balance Plot during September 2017

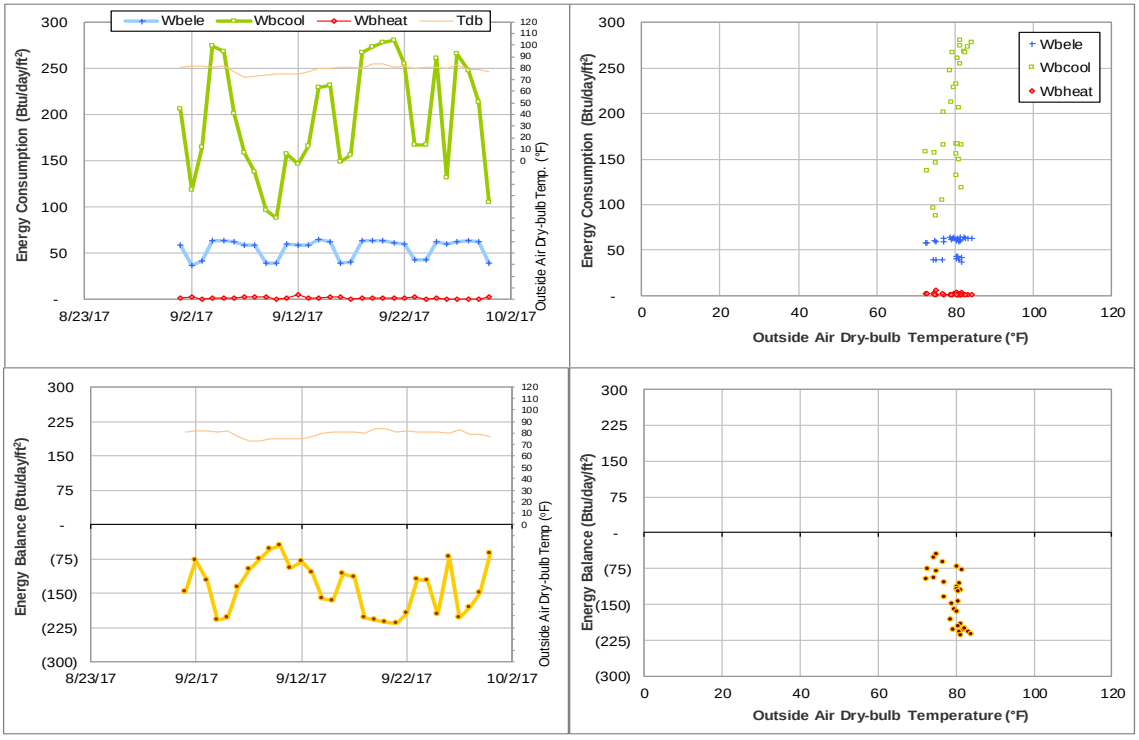


Figure IV-89 Glasscock History Bldg TAMU BLDG # 470 Energy Balance Plot during September 2017

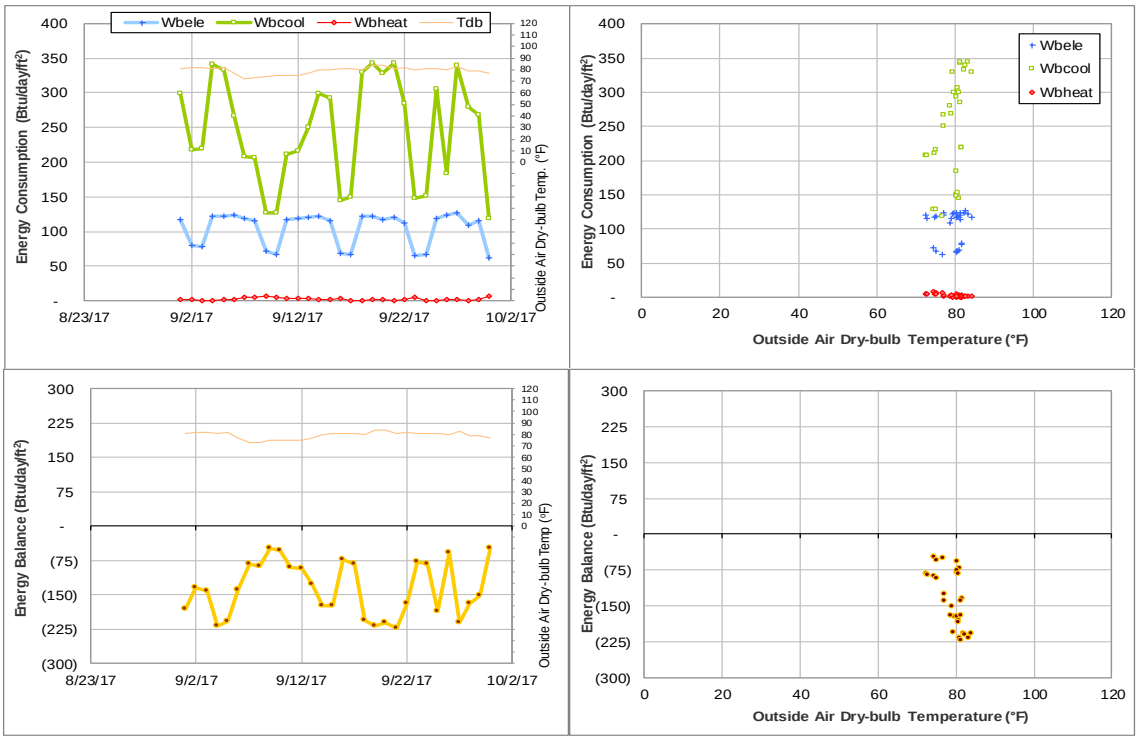


Figure IV-90 Pavilion TAMU BLDG # 471 Energy Balance Plot during September 2017

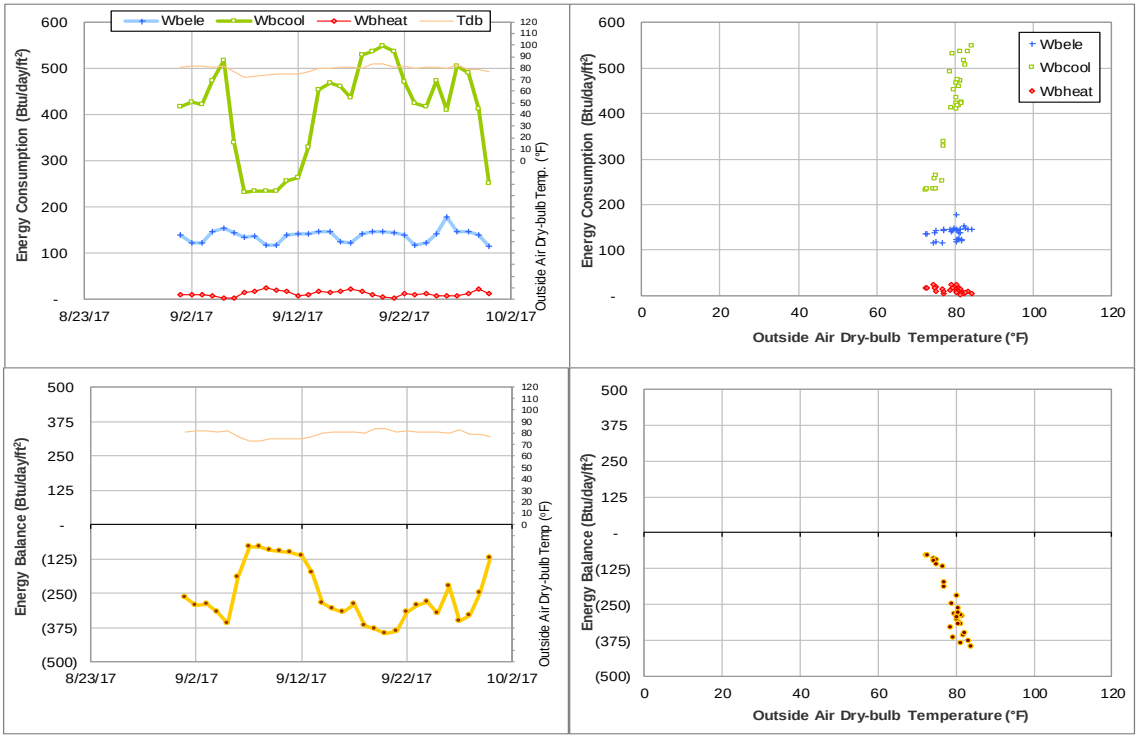


Figure IV-91 Animal Industries TAMU BLDG # 472 Energy Balance Plot during September 2017

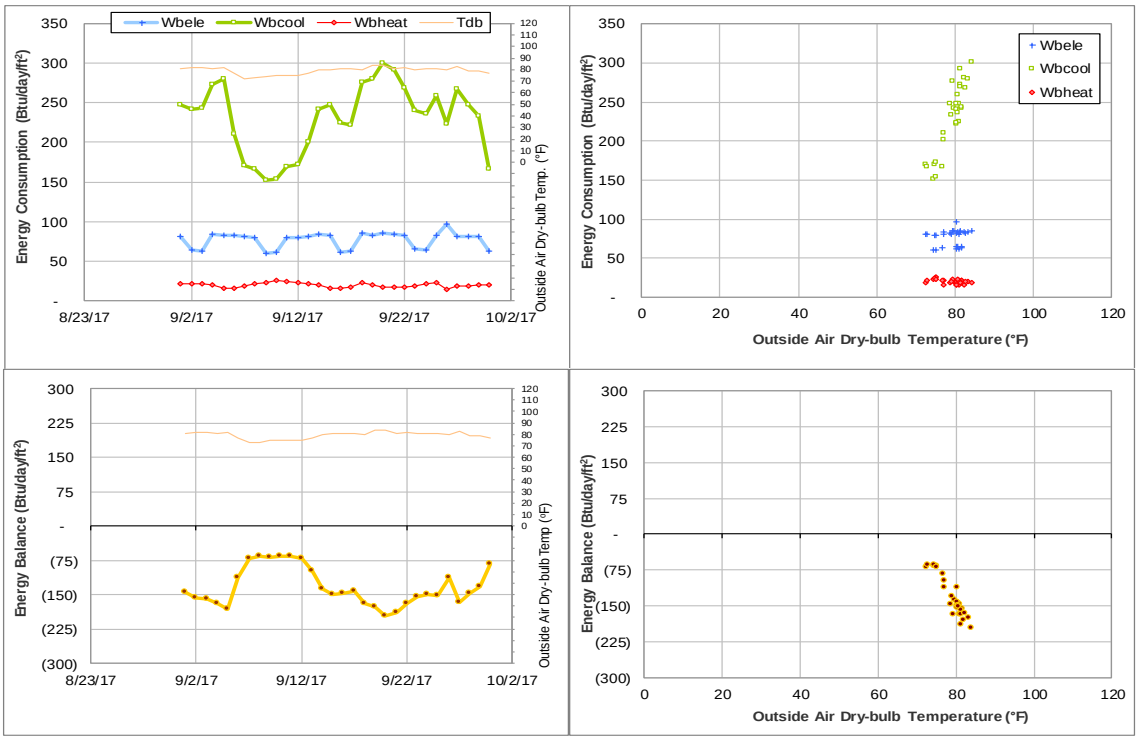


Figure IV-92 Williams Administration Building TAMU BLDG # 473 Energy Balance Plot during September 2017

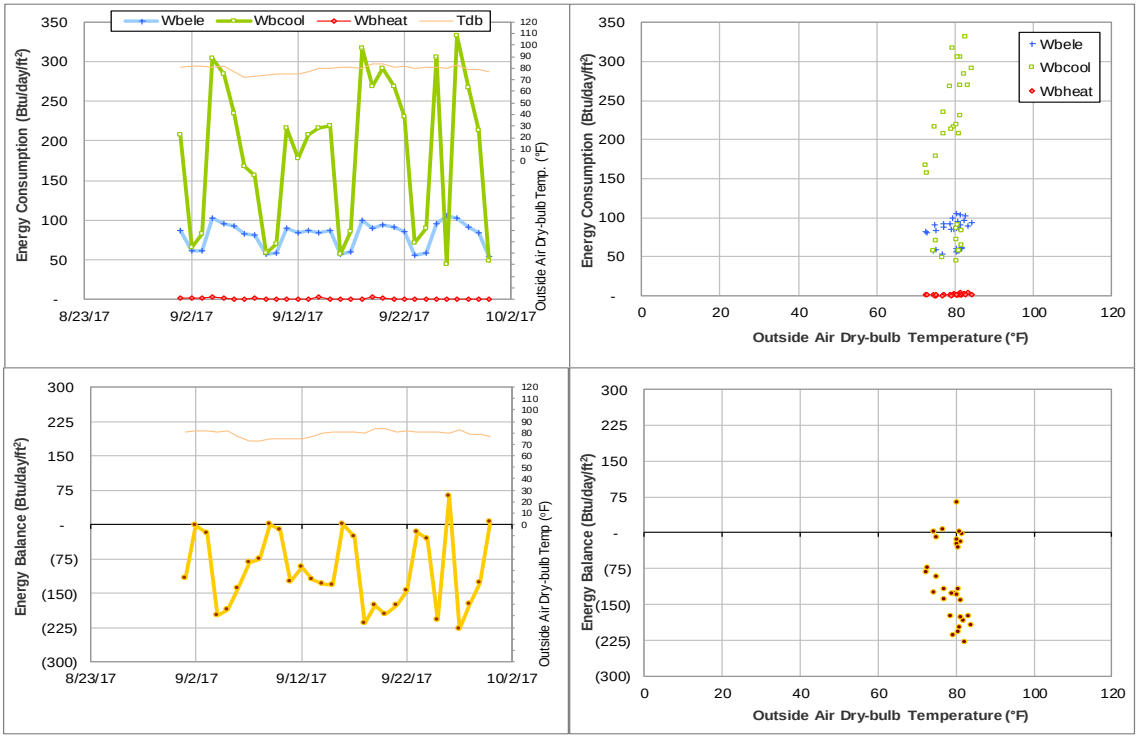


Figure IV-93 YMCA Building TAMU BLDG # 474 Energy Balance Plot during September 2017

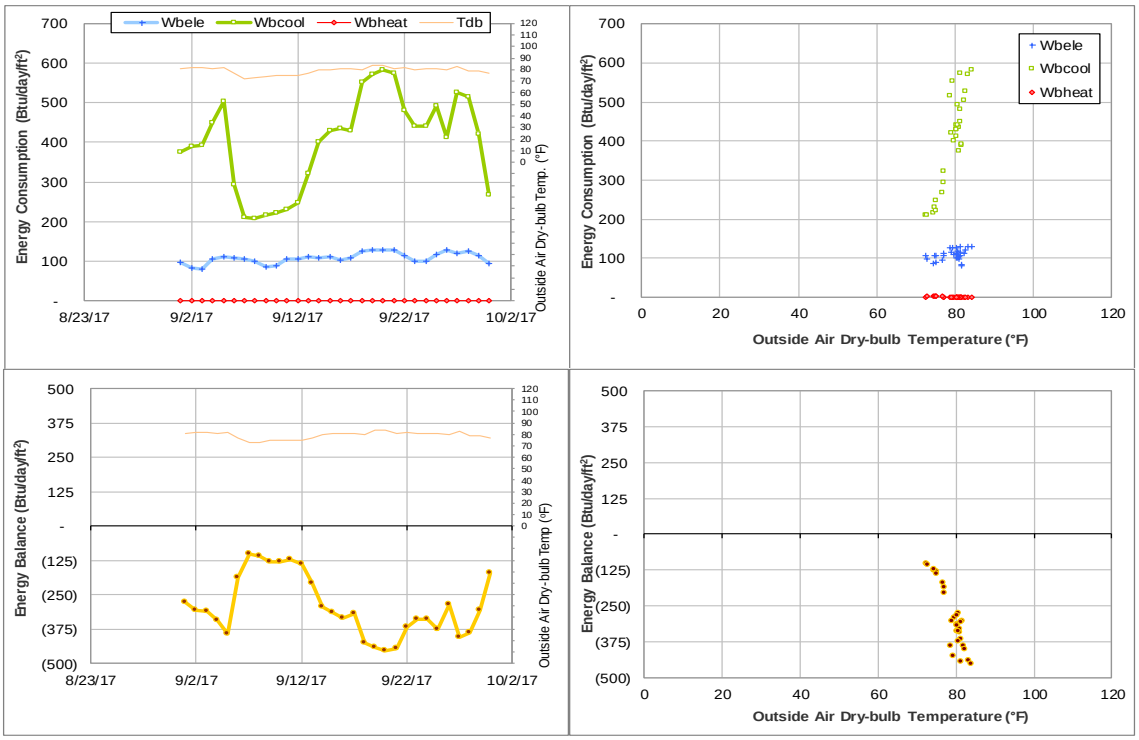


Figure IV-94 Francis Hall TAMU BLDG # 476 Energy Balance Plot during September 2017

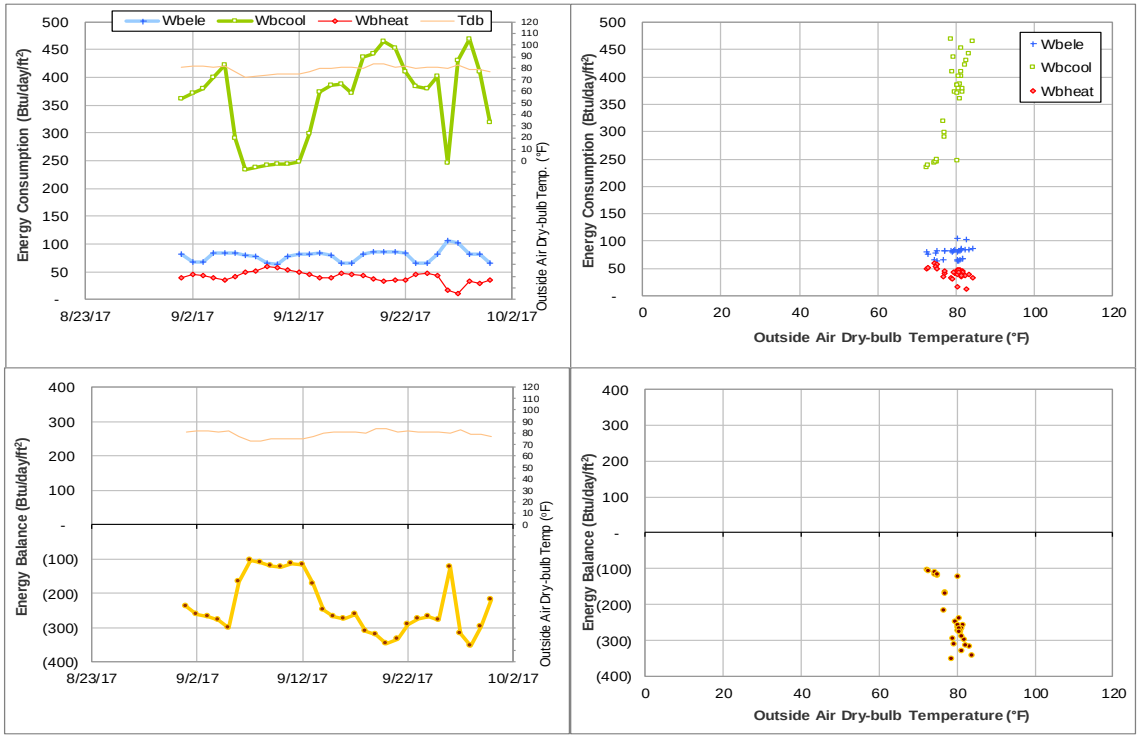


Figure IV-95 Anthropology Building TAMU BLDG # 477 Energy Balance Plot during September 2017

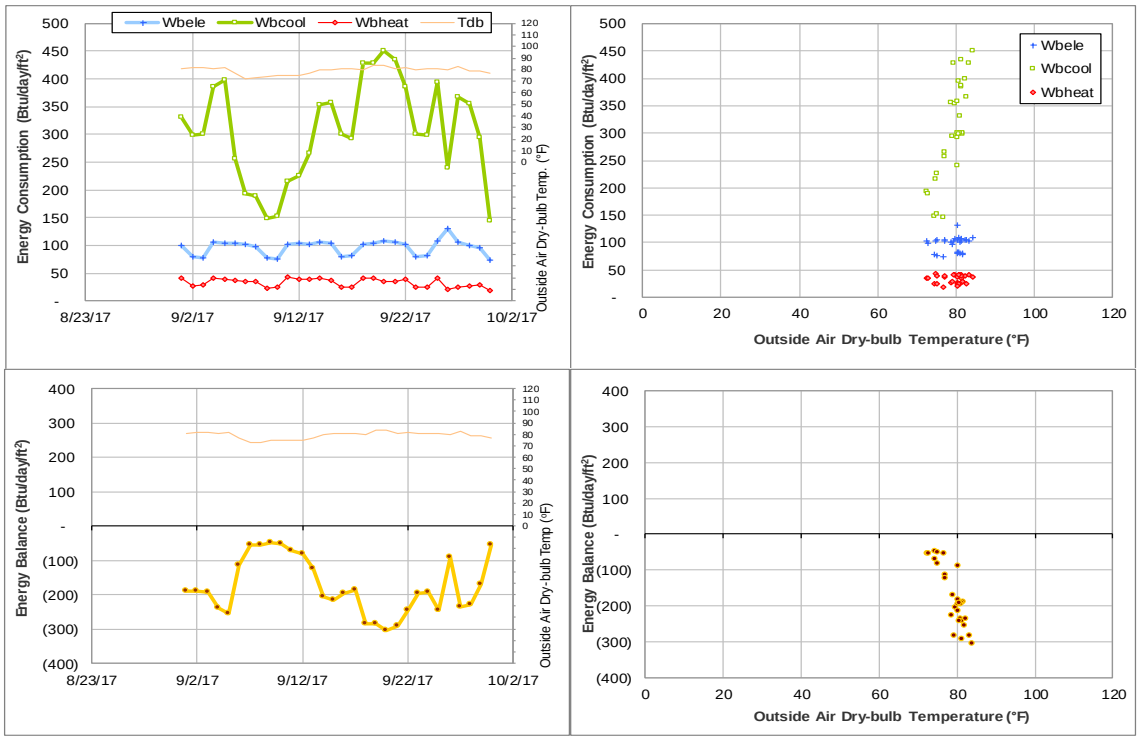


Figure IV-96 Scoates Hall TAMU BLDG # 478 Energy Balance Plot during September 2017

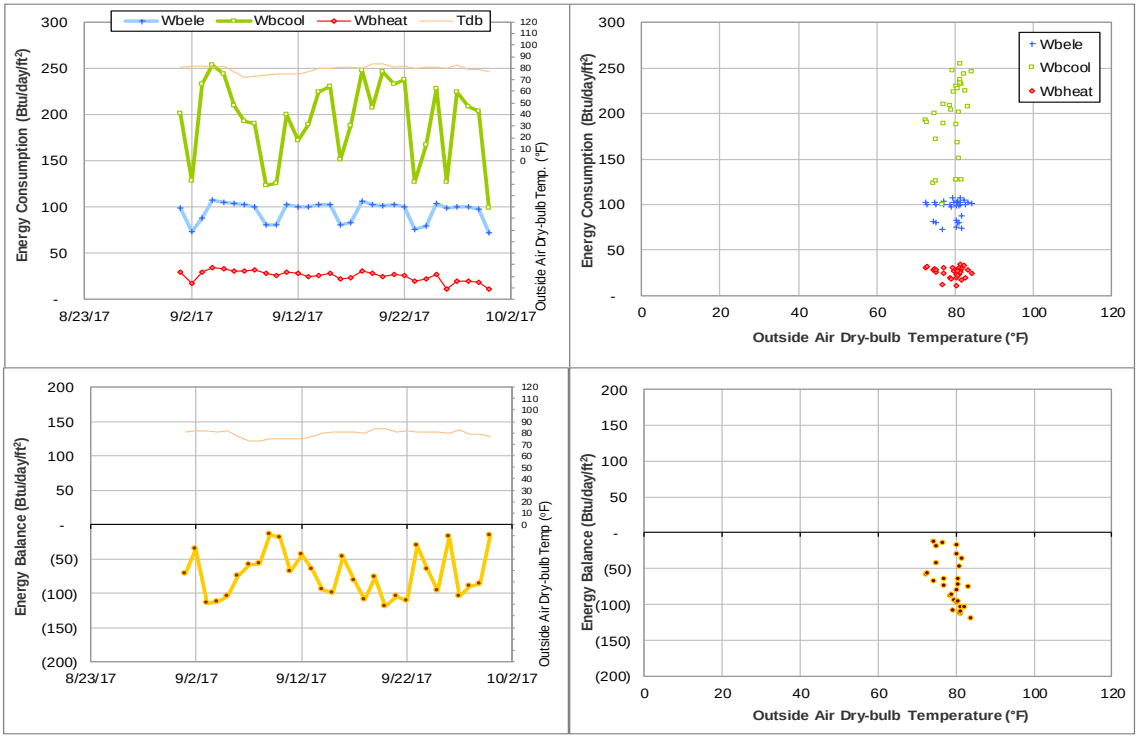


Figure IV-97 Bolton Hall TAMU BLDG # 480 Energy Balance Plot during September 2017

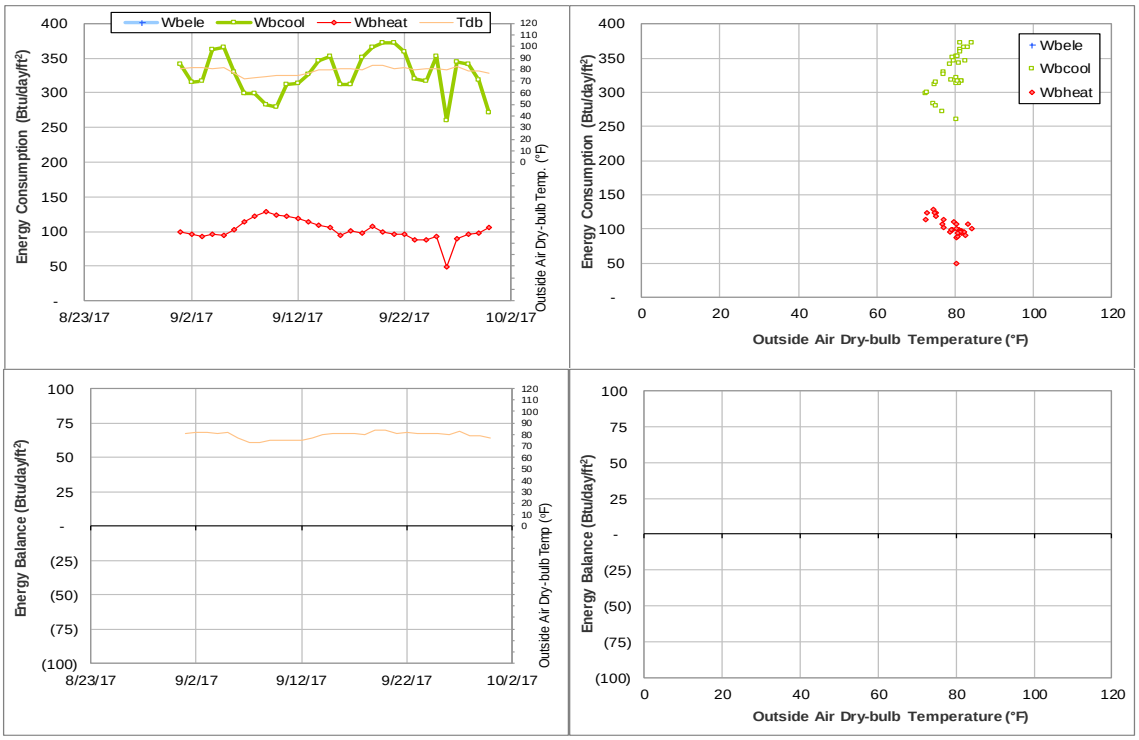


Figure IV-98 Heaton Hall TAMU BLDG # 481 Energy Balance Plot during September 2017

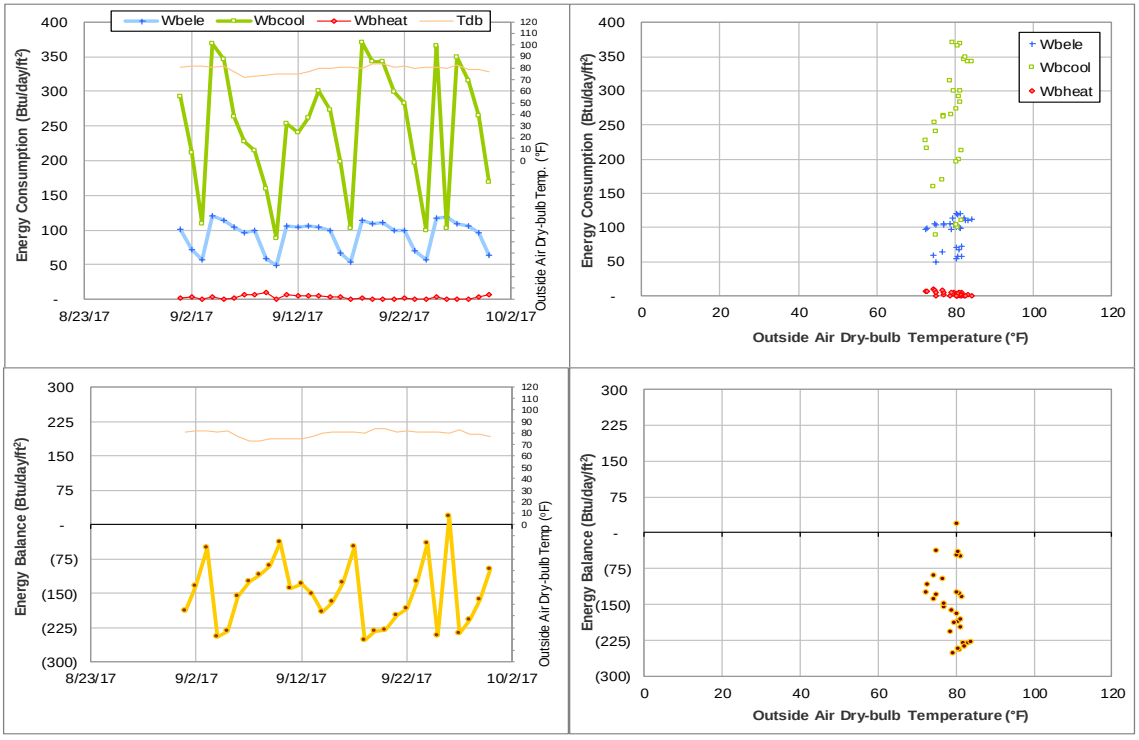


Figure IV-99 Fermier Hall TAMU BLDG # 482 Energy Balance Plot during September 2017

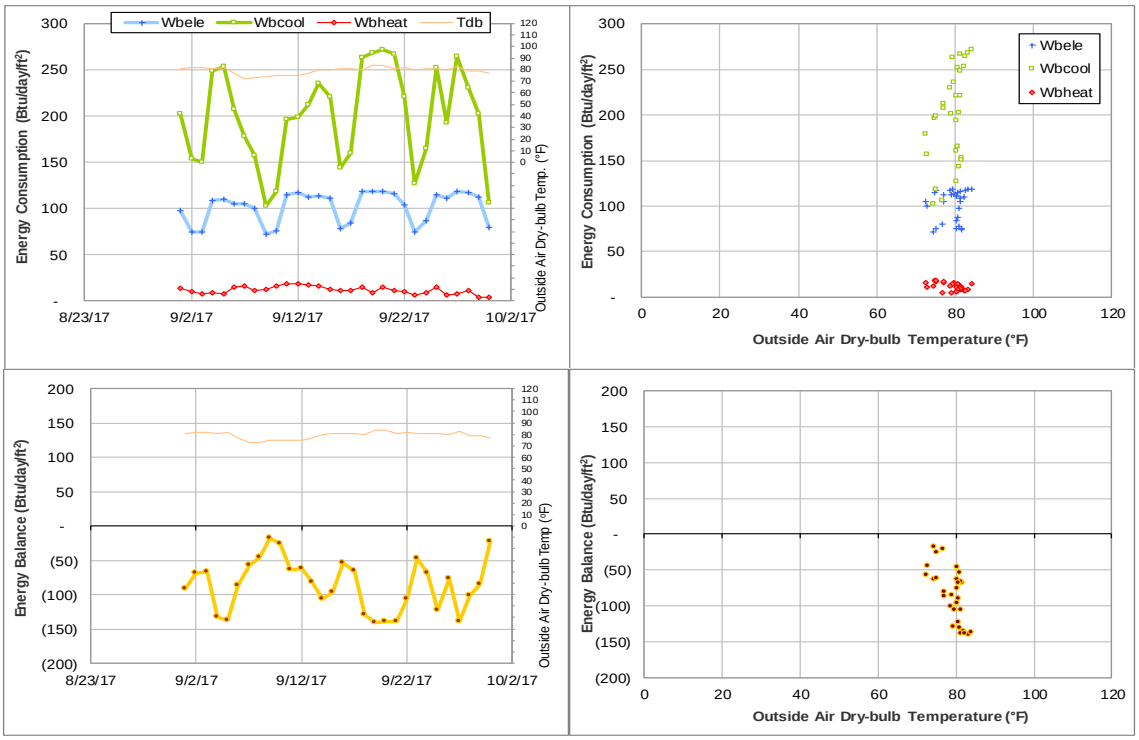


Figure IV-100 Thompson Hall TAMU BLDG # 483 Energy Balance Plot during September 2017

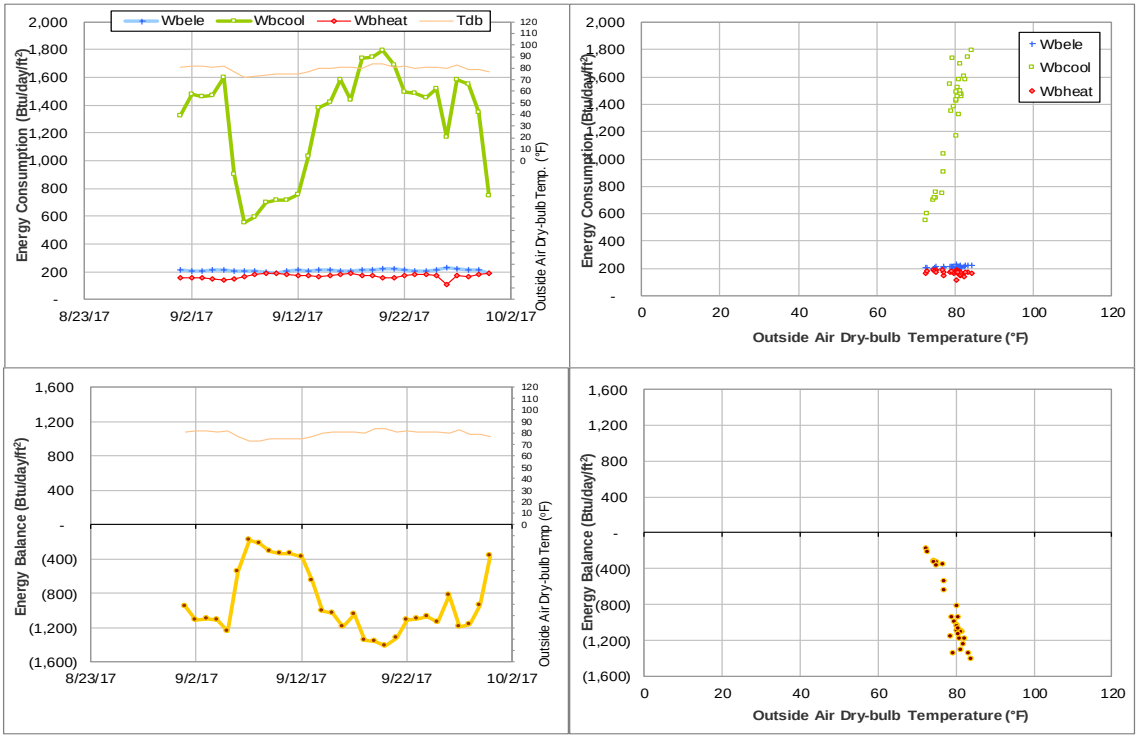


Figure IV-101 Chemistry Building TAMU BLDG # 484 Energy Balance Plot during September 2017

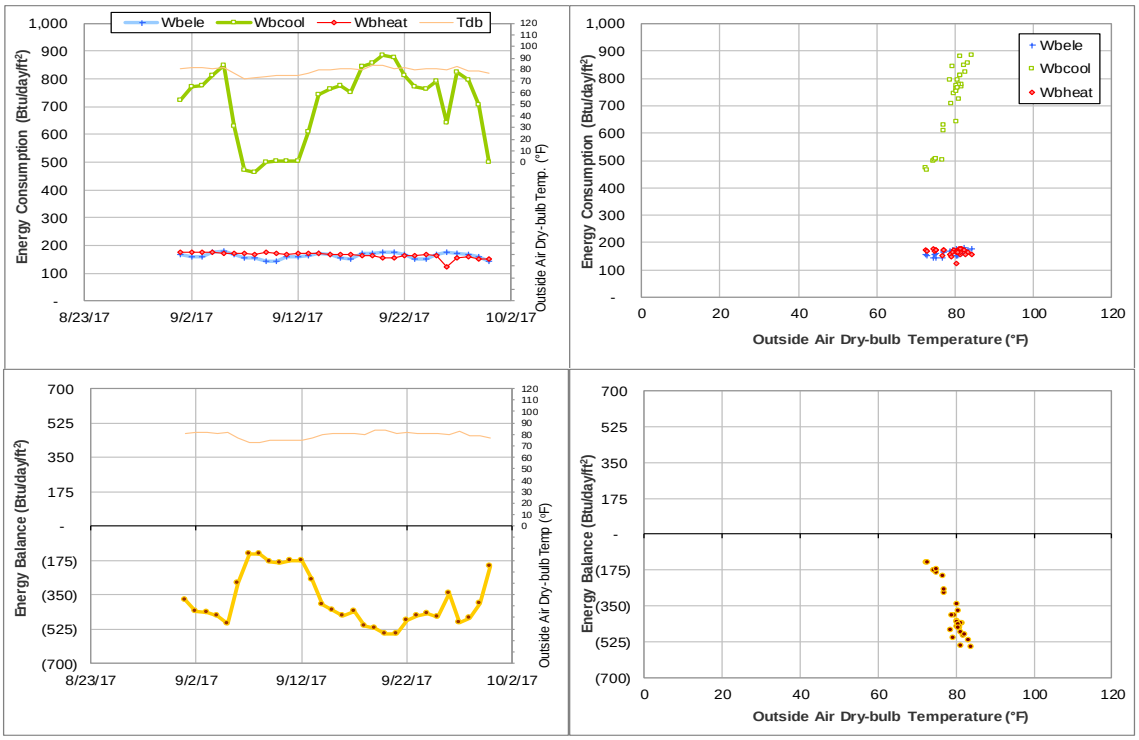


Figure IV-102 Halbouty Geosciences Building TAMU BLDG # 490 Energy Balance Plot during September 2017

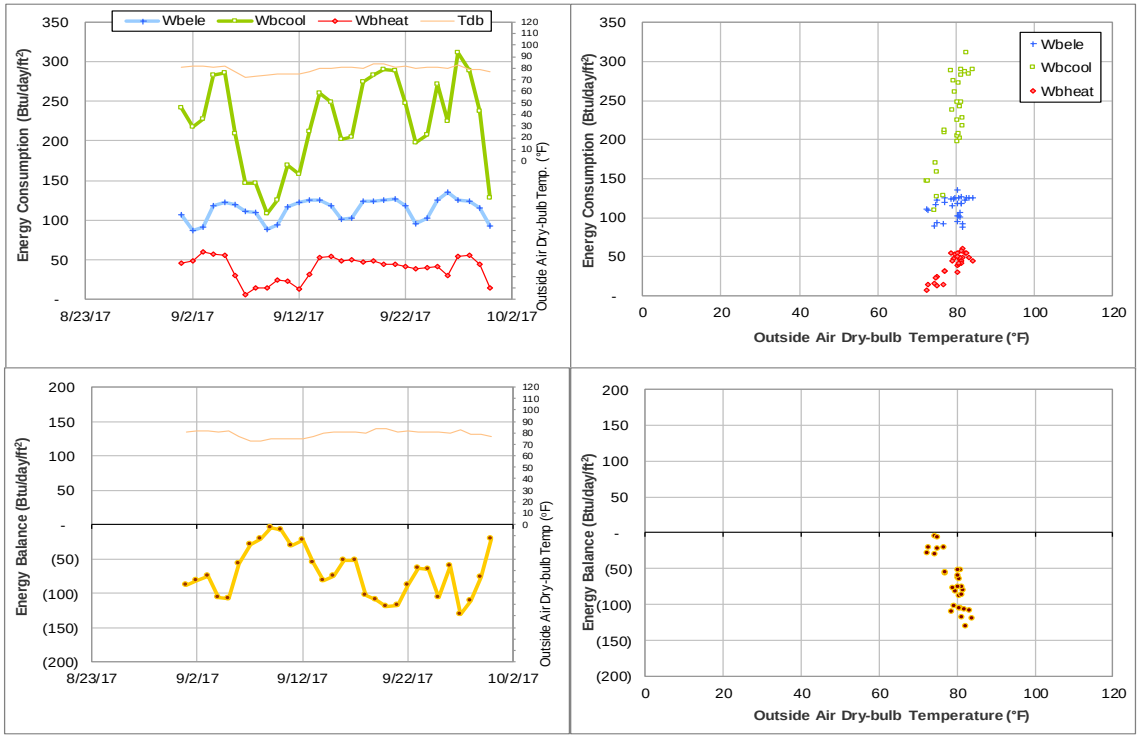


Figure IV-103 Civil Engineering Building TAMU BLDG # 492 Energy Balance Plot during September 2017

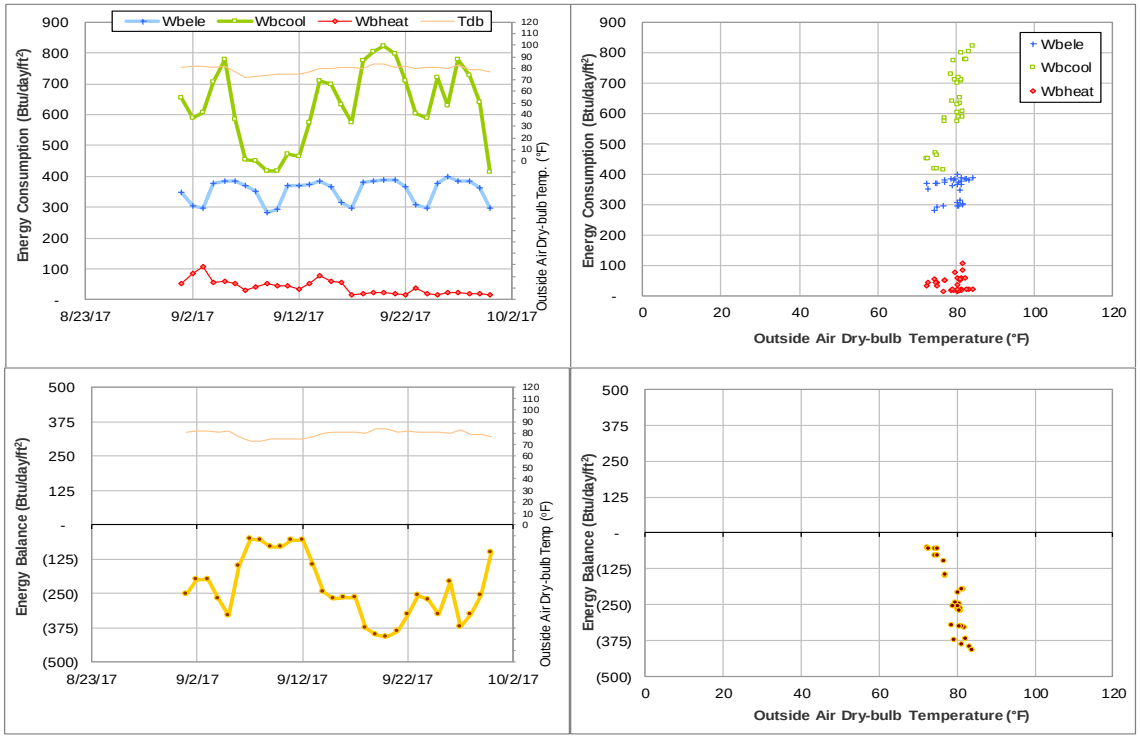


Figure IV-104 Sbisa Dining Hall TAMU BLDG # 495 Energy Balance Plot during September 2017

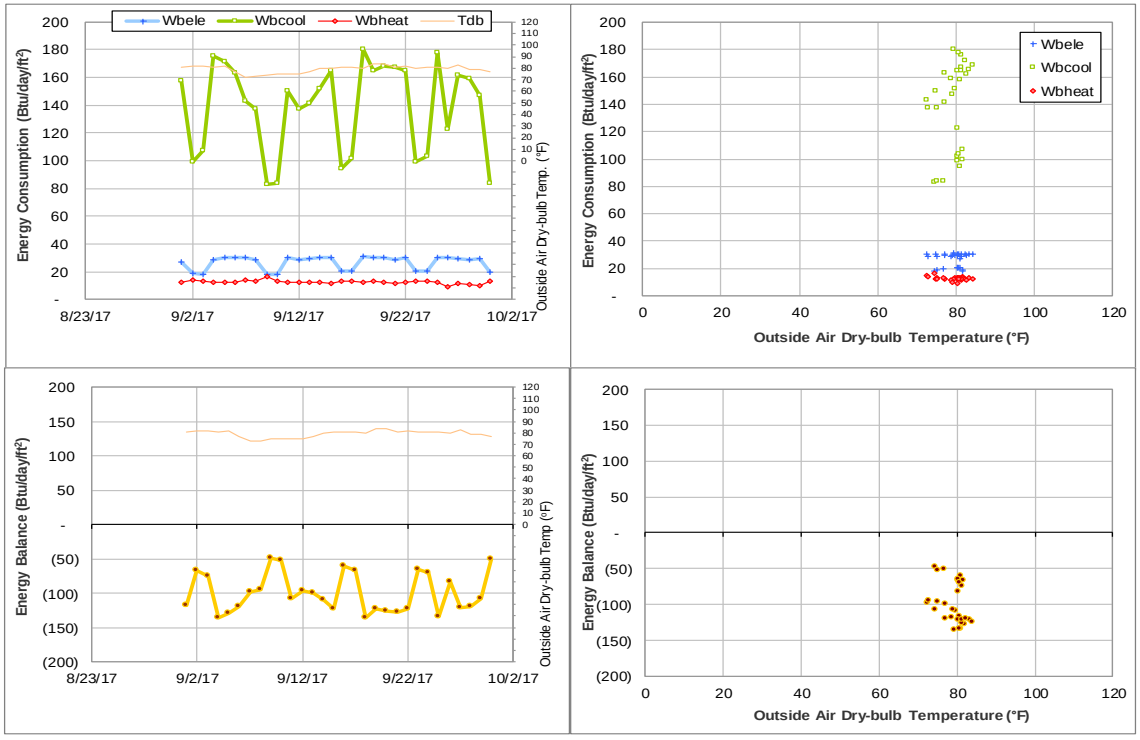


Figure IV-105 Utilities & Energy Services Central Office TAMU BLDG # 496 Energy Balance Plot during September 2017

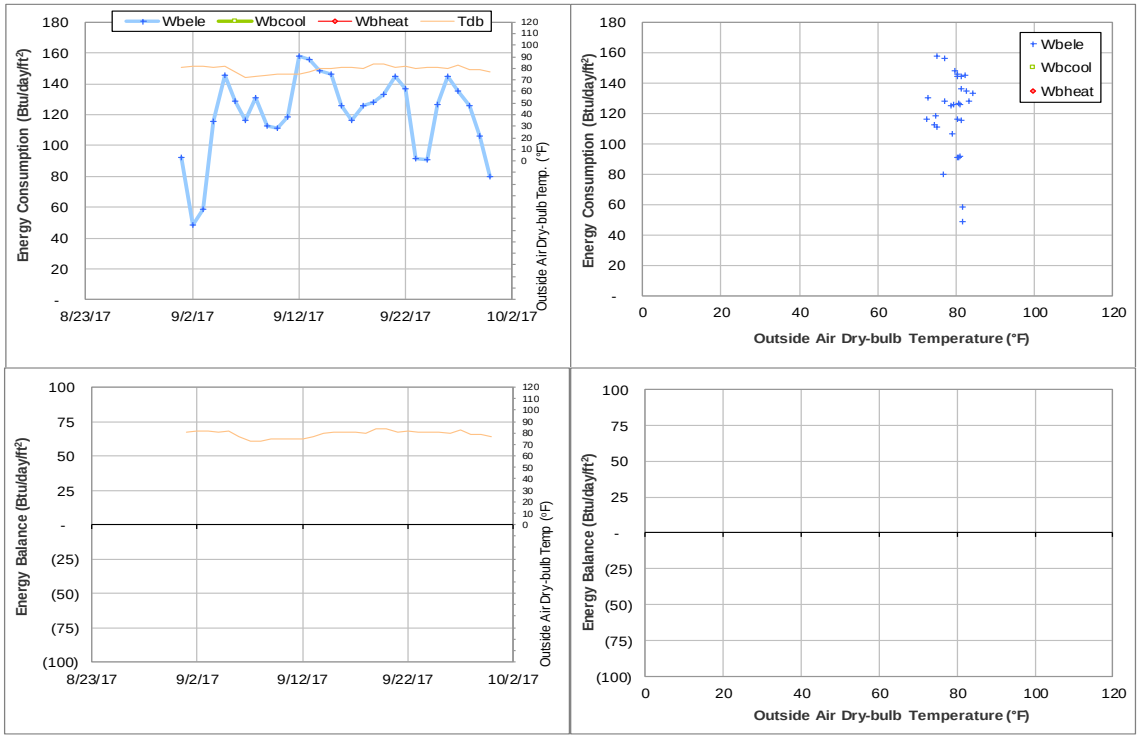


Figure IV-106 Concrete Materials Laboratory TAMU BLDG # 501 Energy Balance Plot during September 2017

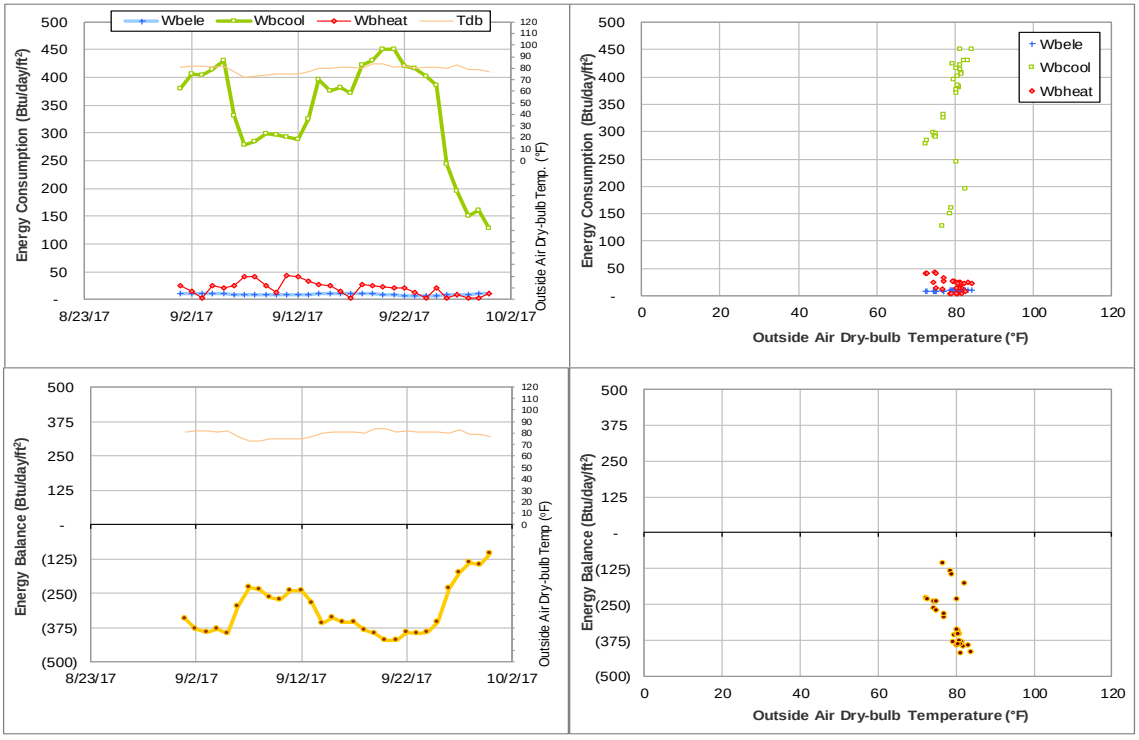


Figure IV-107 Nagle Hall TAMU BLDG # 506 Energy Balance Plot during September 2017

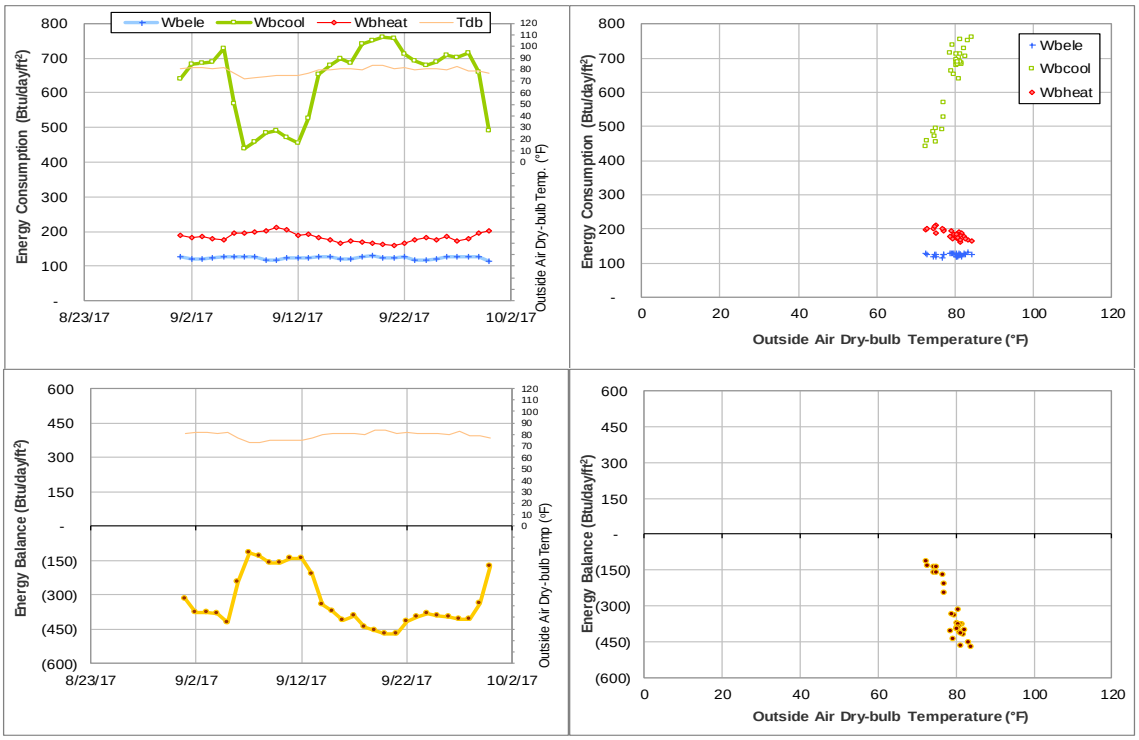


Figure IV-108 Veterinary Medical Science Building TAMU BLDG # 507 Energy Balance Plot during September 2017

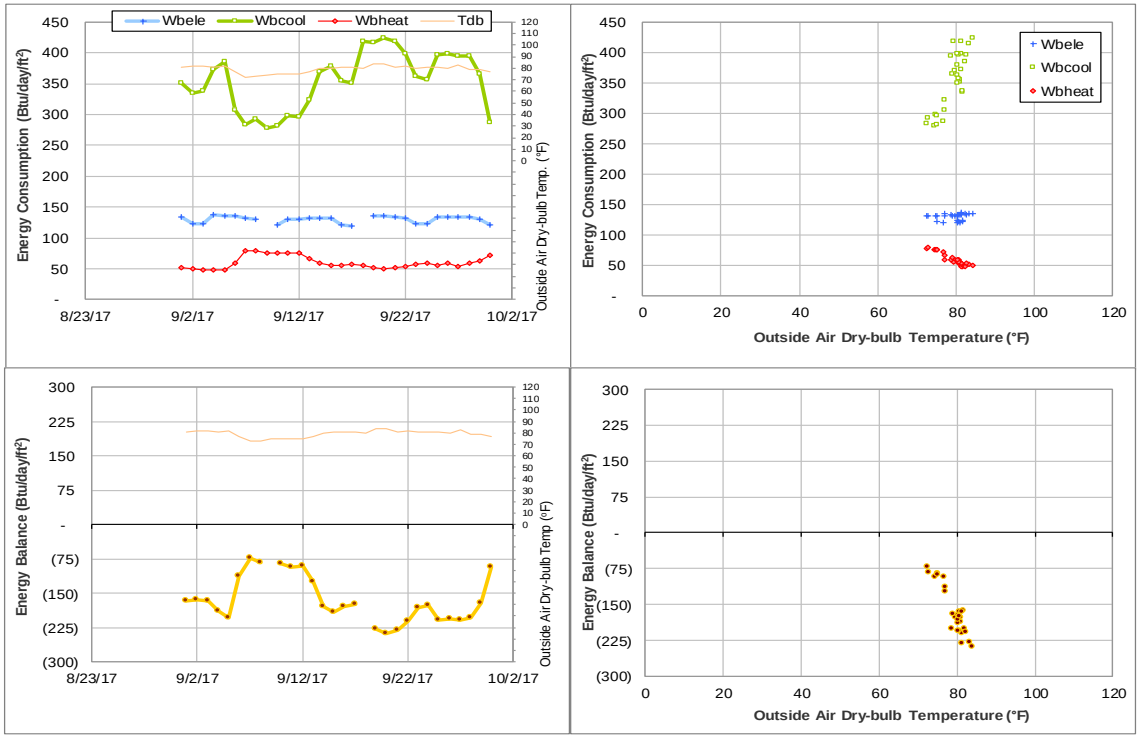


Figure IV-109 Veterinary Teaching Hospital and Med Adm TAMU BLDG # 508 and 1026 Energy Balance Plot during September 2017

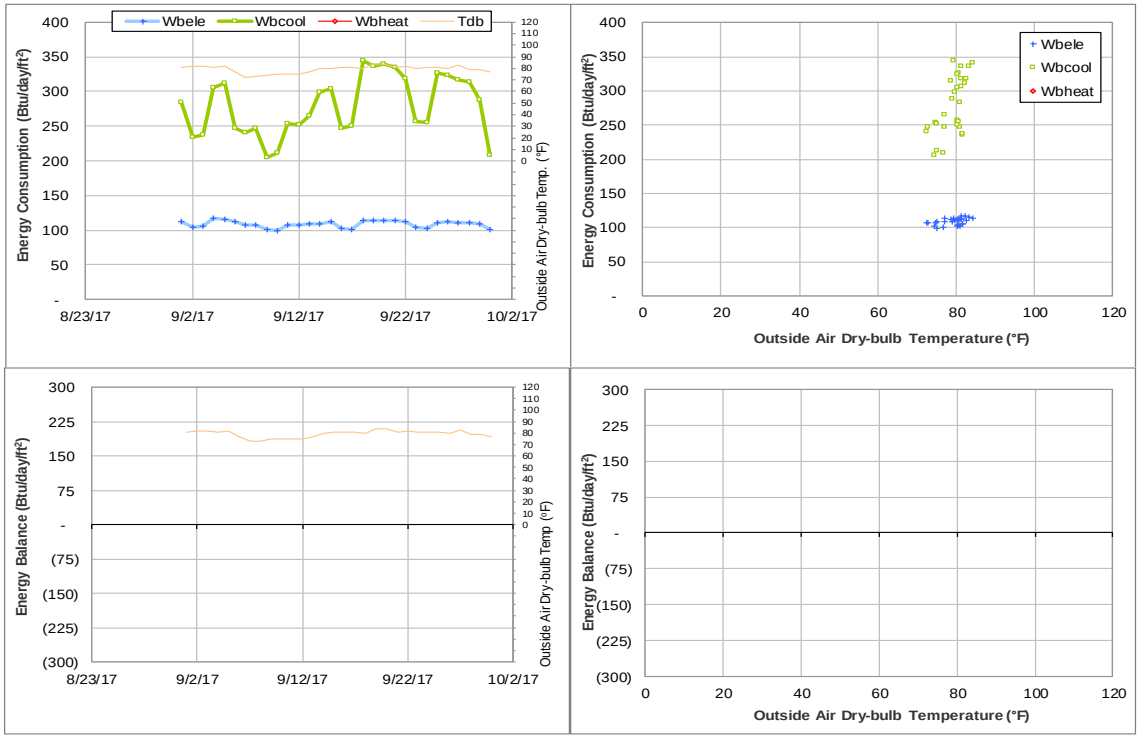


Figure IV-110 Veterinary Teaching Hospital TAMU BLDG # 508 Energy Balance Plot during September 2017

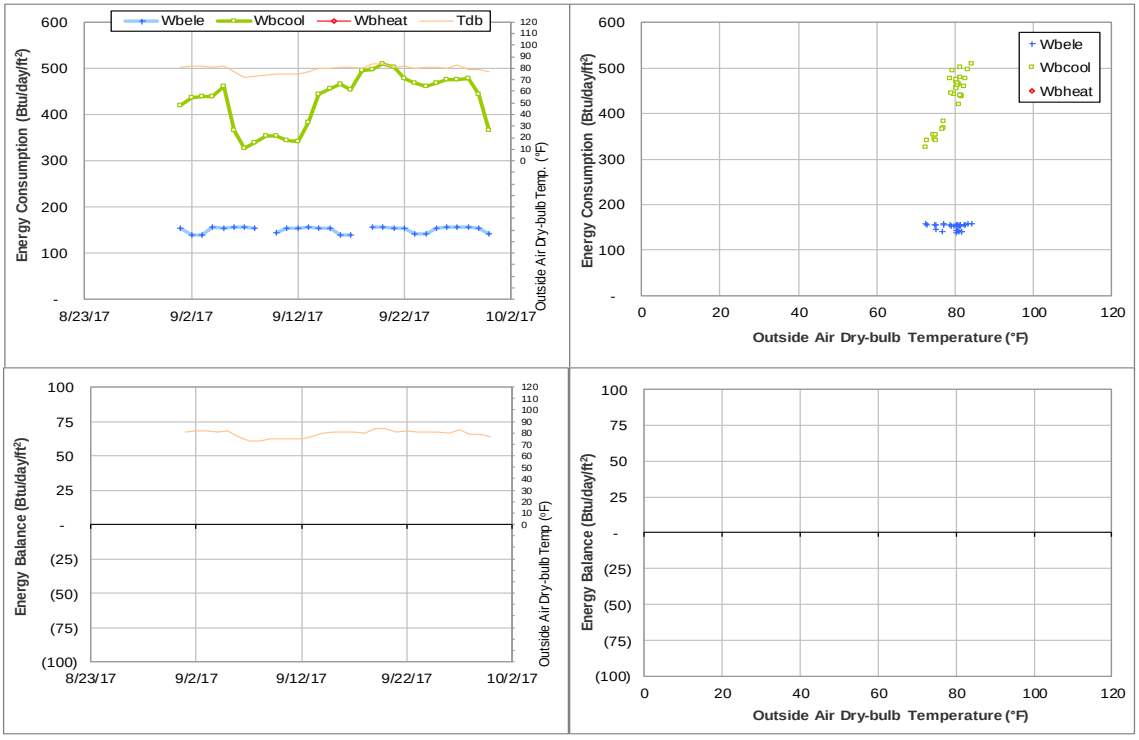


Figure IV-111 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during September 2017

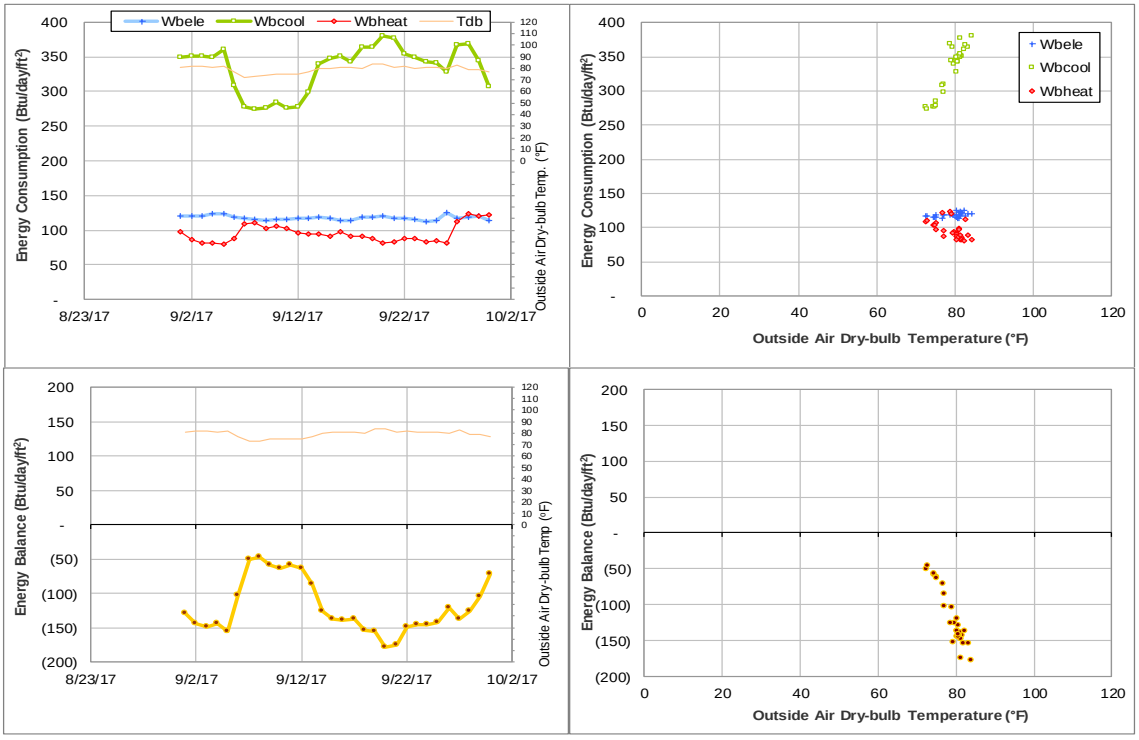


Figure IV-112 Heep Laboratory Building TAMU BLDG # 511 Energy Balance Plot during September 2017

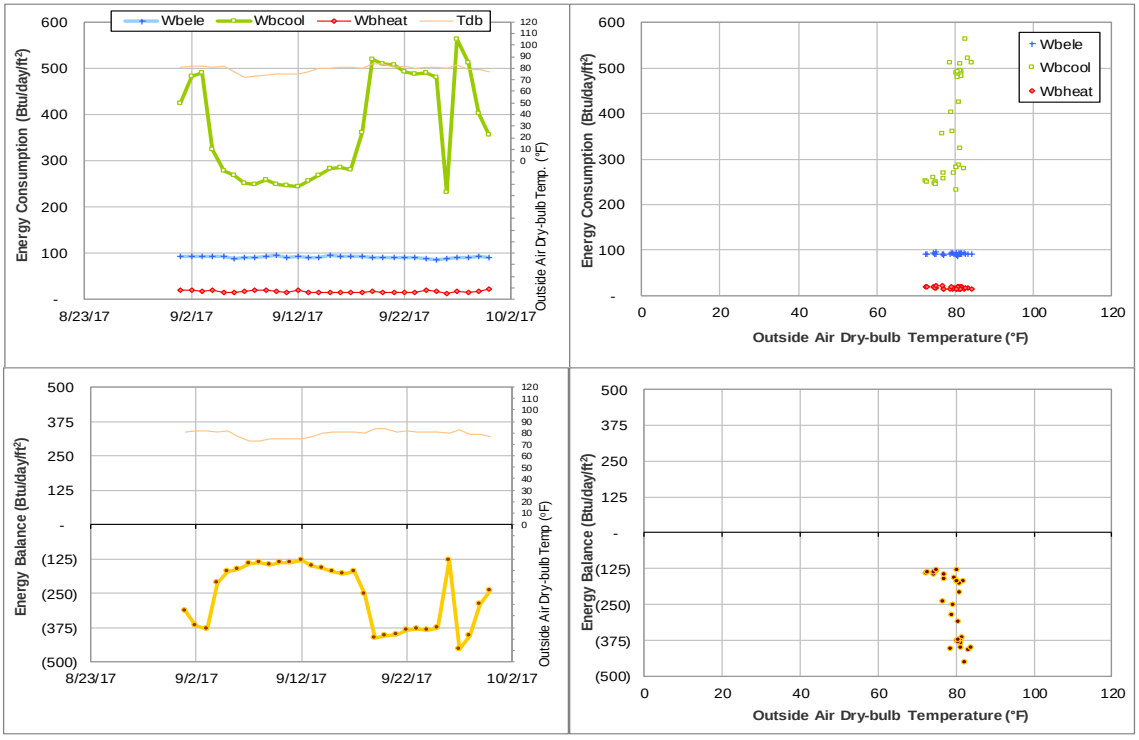


Figure IV-113 All Faiths Chapel TAMU BLDG # 512 Energy Balance Plot during September 2017

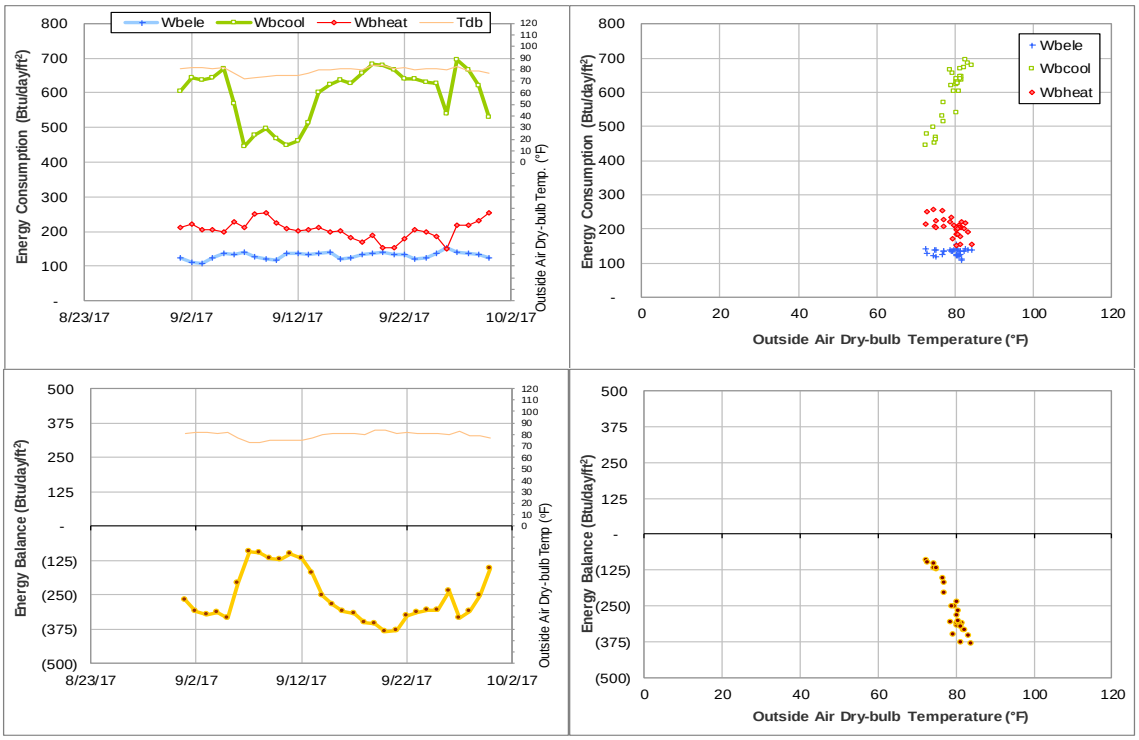


Figure IV-114 Doherty Building TAMU BLDG # 513 Energy Balance Plot during September 2017

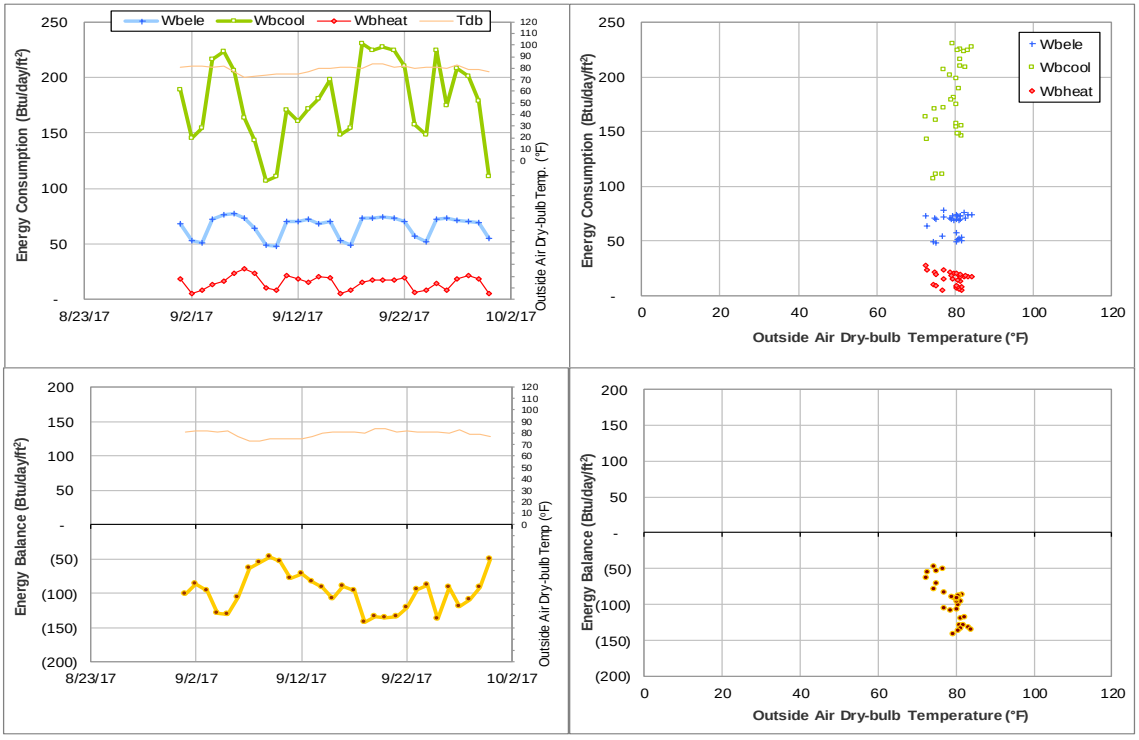


Figure IV-115 Munnerlyn Astronomy & Space Sciences Engineering TAMU BLDG # 514 Energy Balance Plot during September 2017

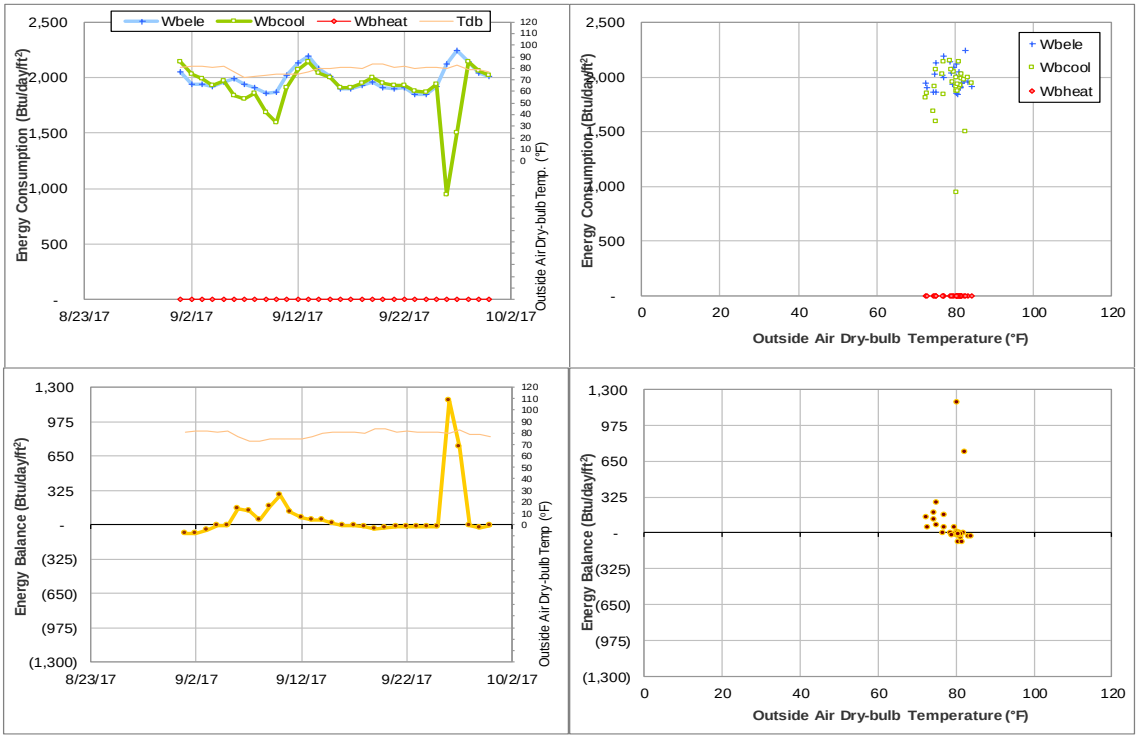


Figure IV-116 Computing Services Center TAMU BLDG # 516 Energy Balance Plot during September 2017

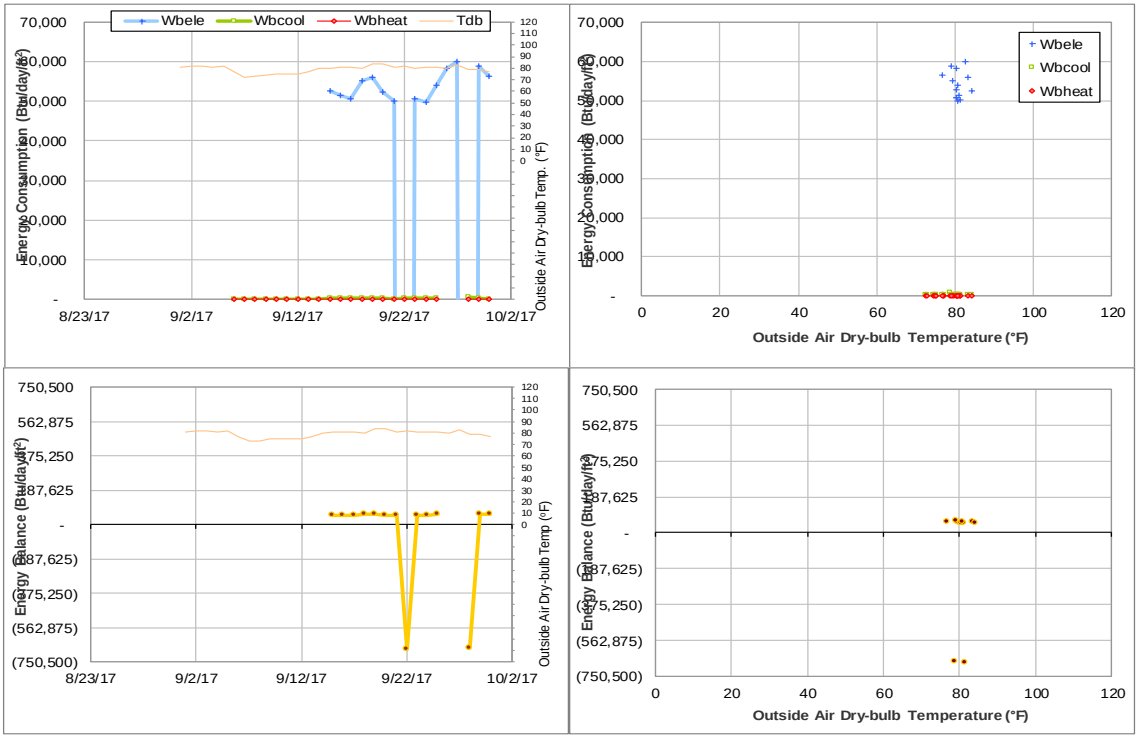


Figure IV-117 Zachry Engineering Education Complex TAMU BLDG # 518 Energy Balance Plot during September 2017

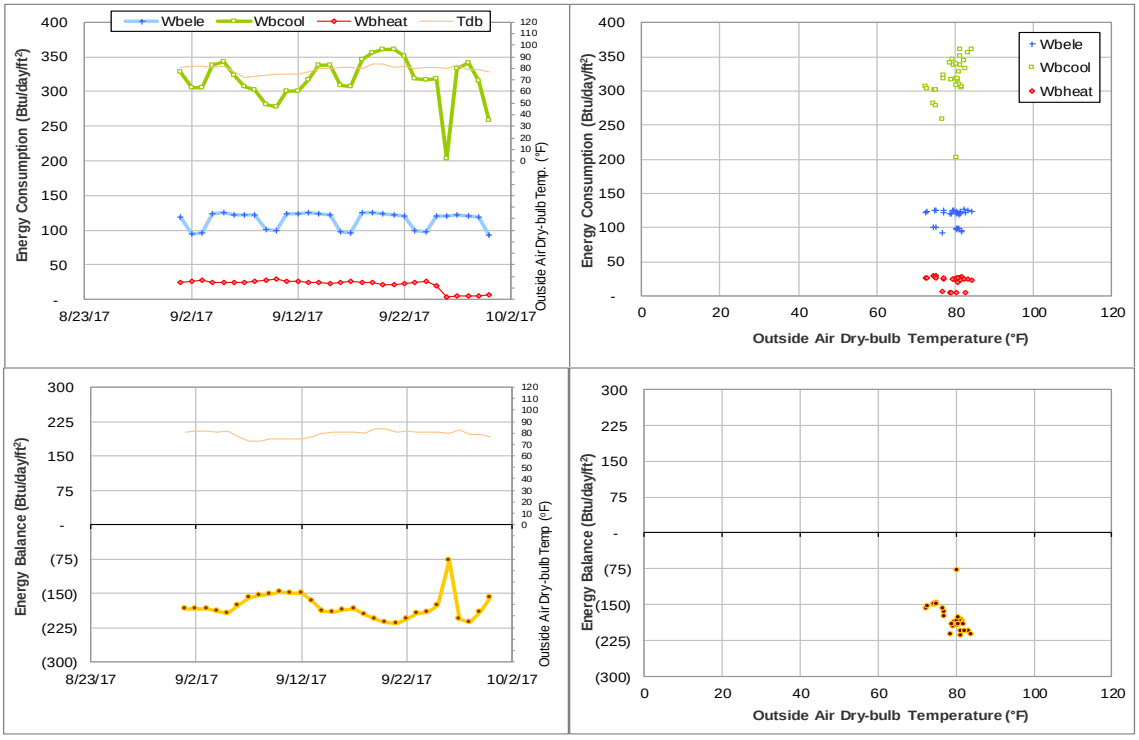


Figure IV-118 Beutel Health Center TAMU BLDG # 520 Energy Balance Plot during September 2017

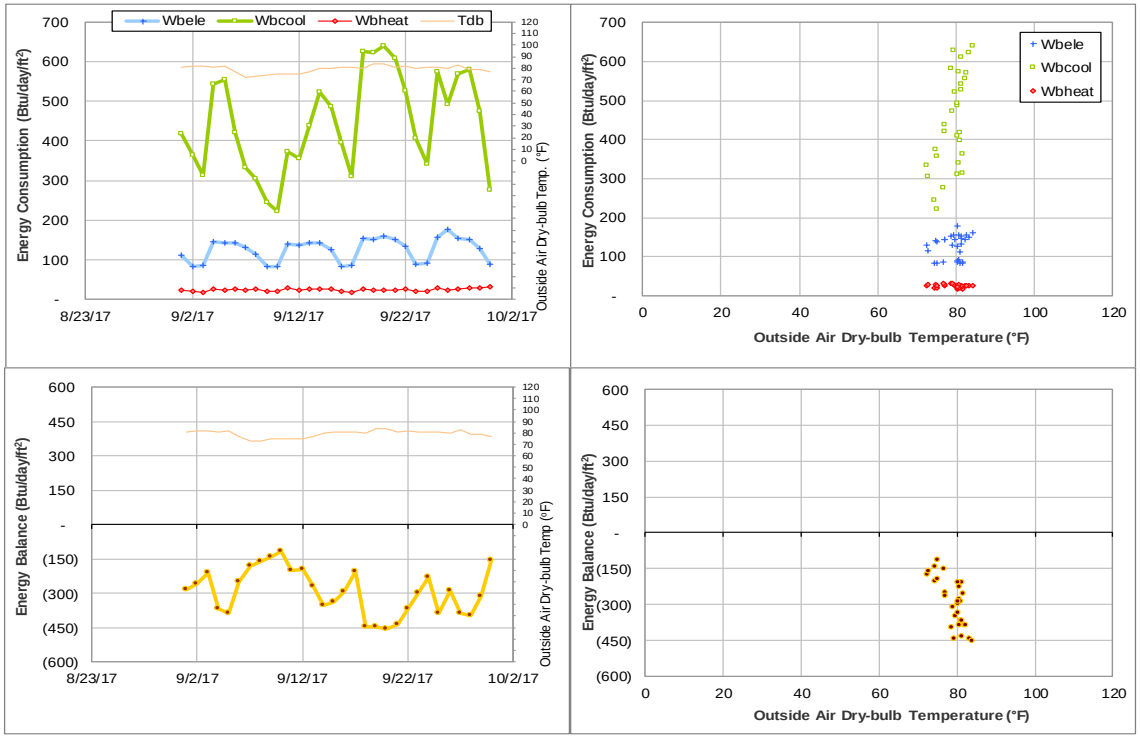


Figure IV-119 Heldenfels Hall TAMU BLDG # 521 Energy Balance Plot during September 2017

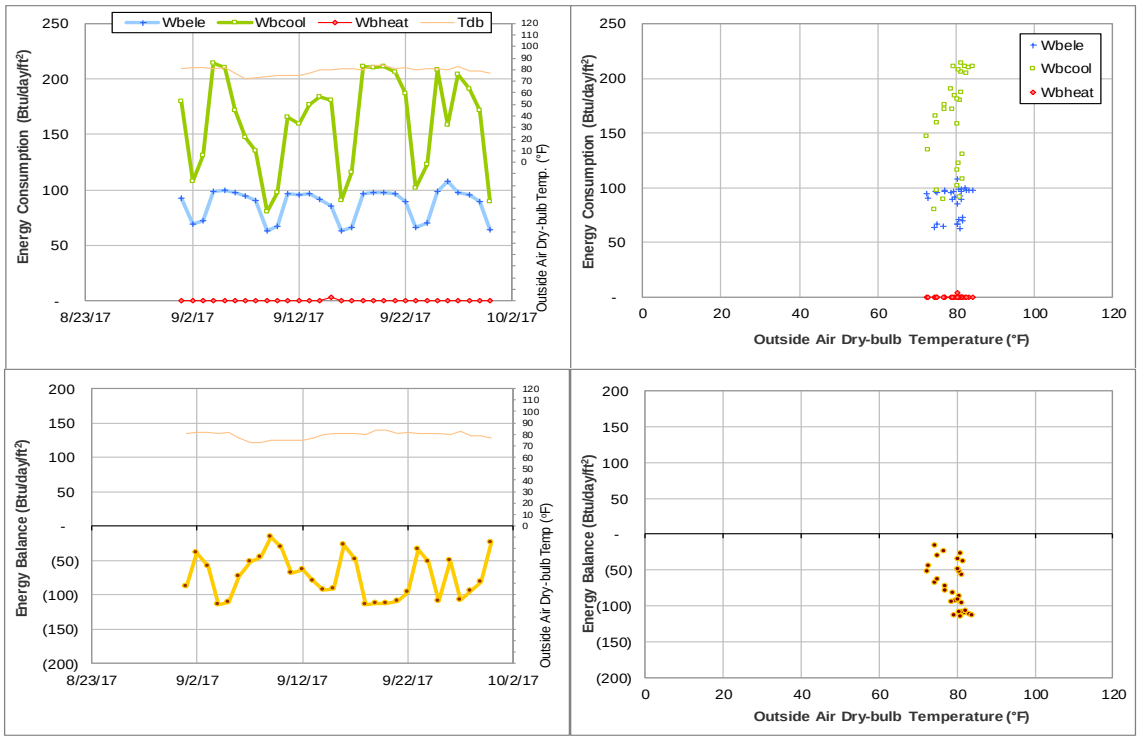


Figure IV-120 Blocker building TAMU BLDG # 524 Energy Balance Plot during September 2017

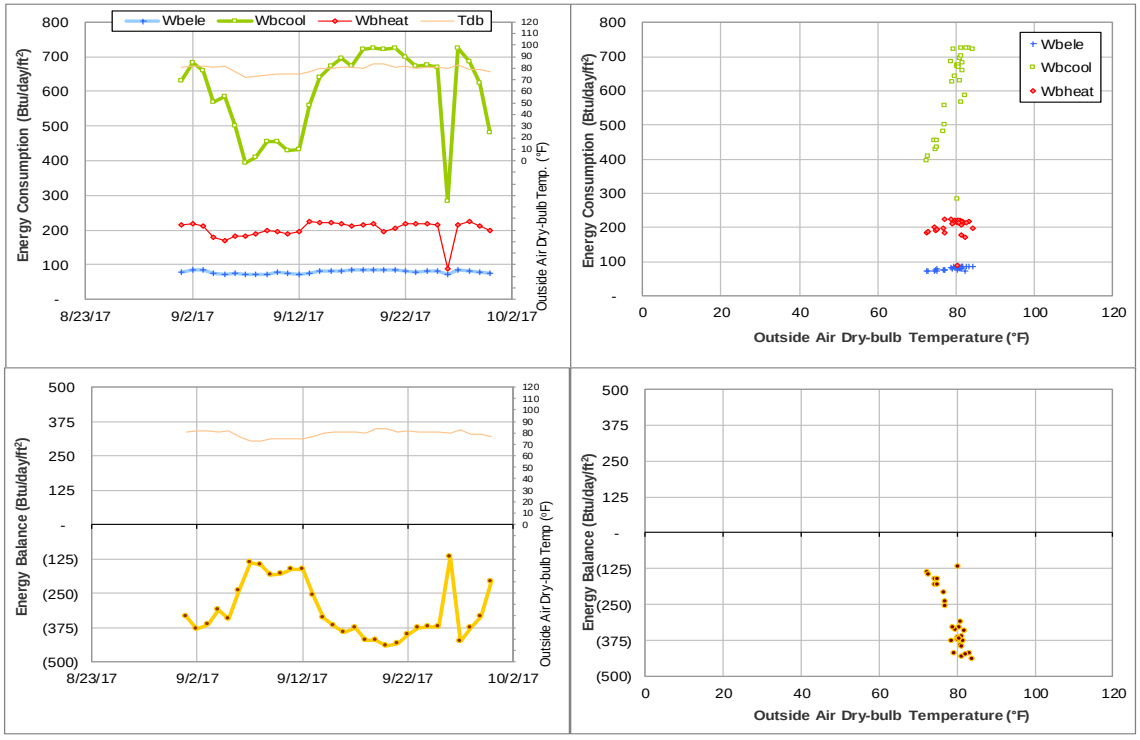


Figure IV-121 Clements Residence Hall TAMU BLDG # 548 Energy Balance Plot during September 2017

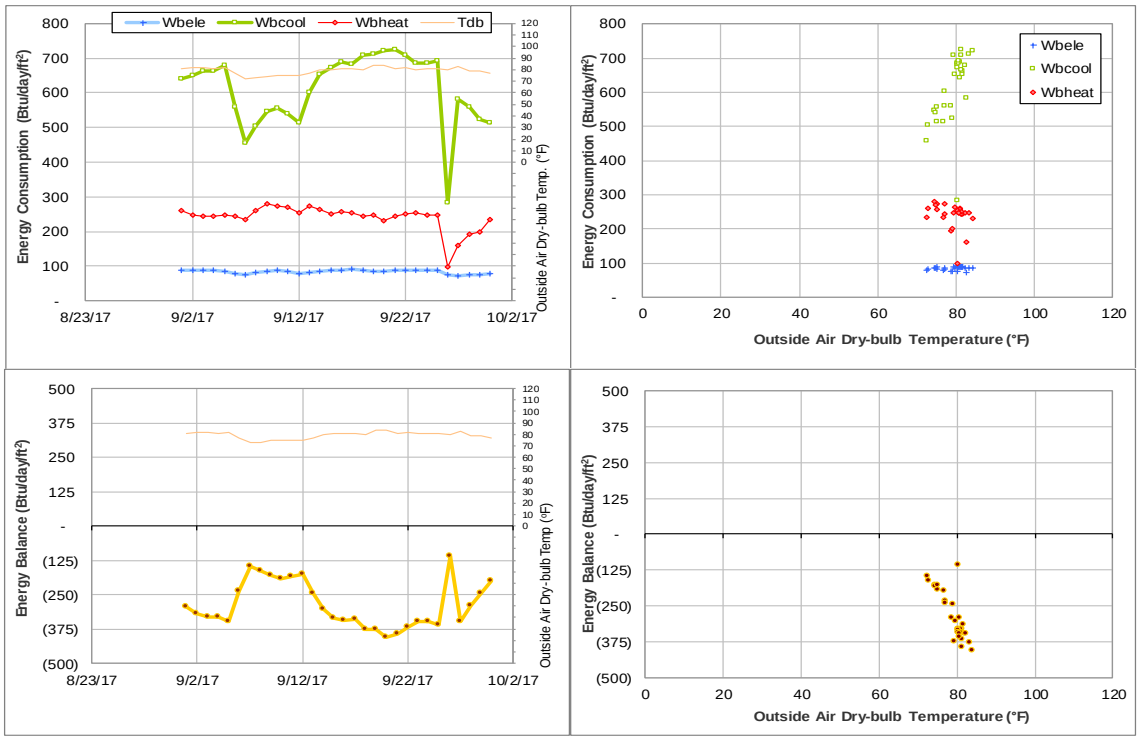


Figure IV-122 Haas Residence Hall TAMU BLDG # 549 Energy Balance Plot during September 2017

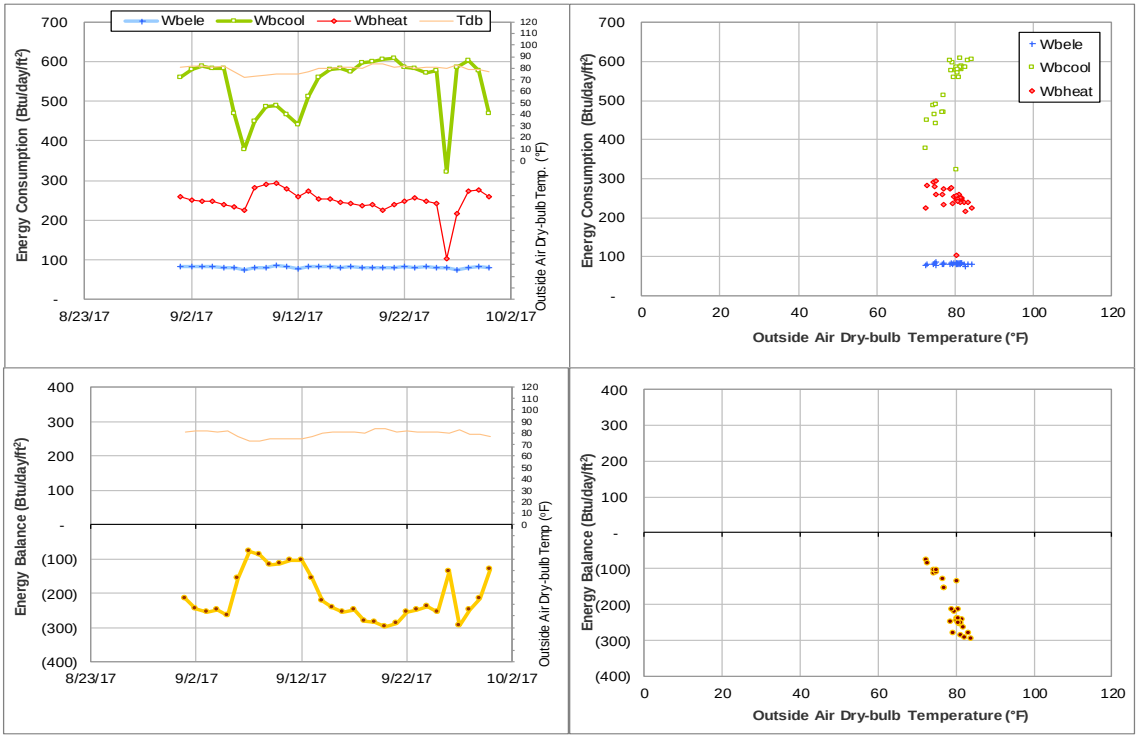


Figure IV-123 McFadden Residence Hall TAMU BLDG # 550 Energy Balance Plot during September 2017

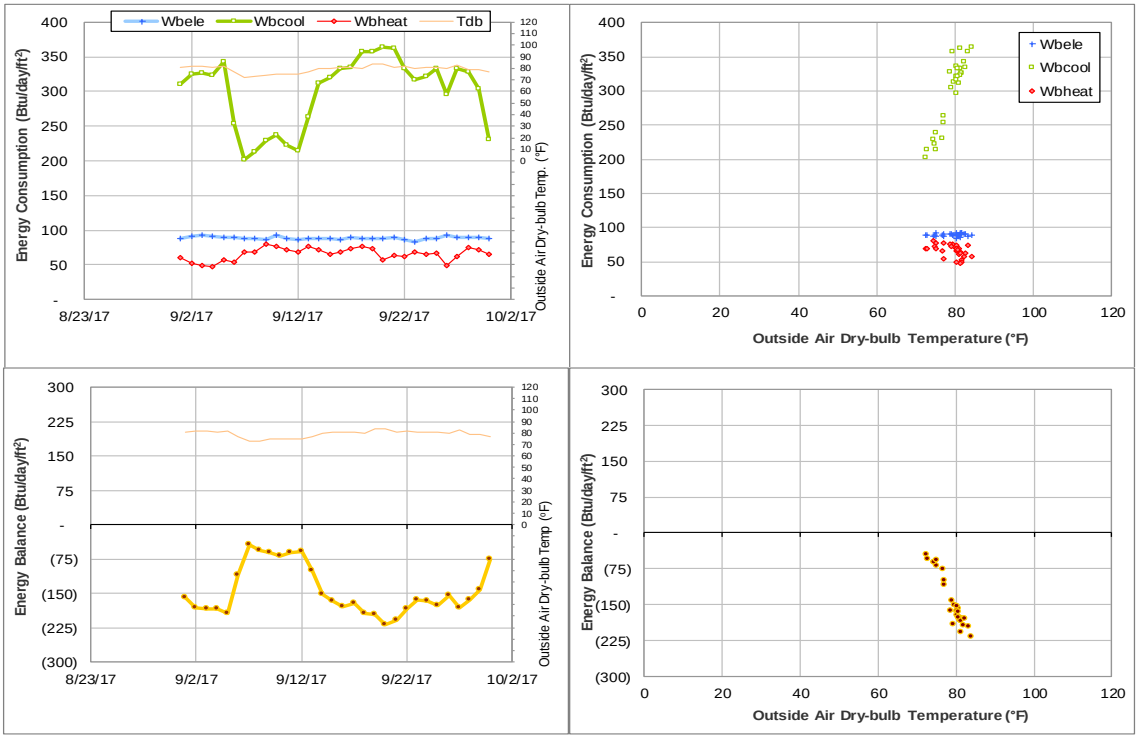


Figure IV-124 Neeley Residence Hall TAMU BLDG # 652 Energy Balance Plot during September 2017

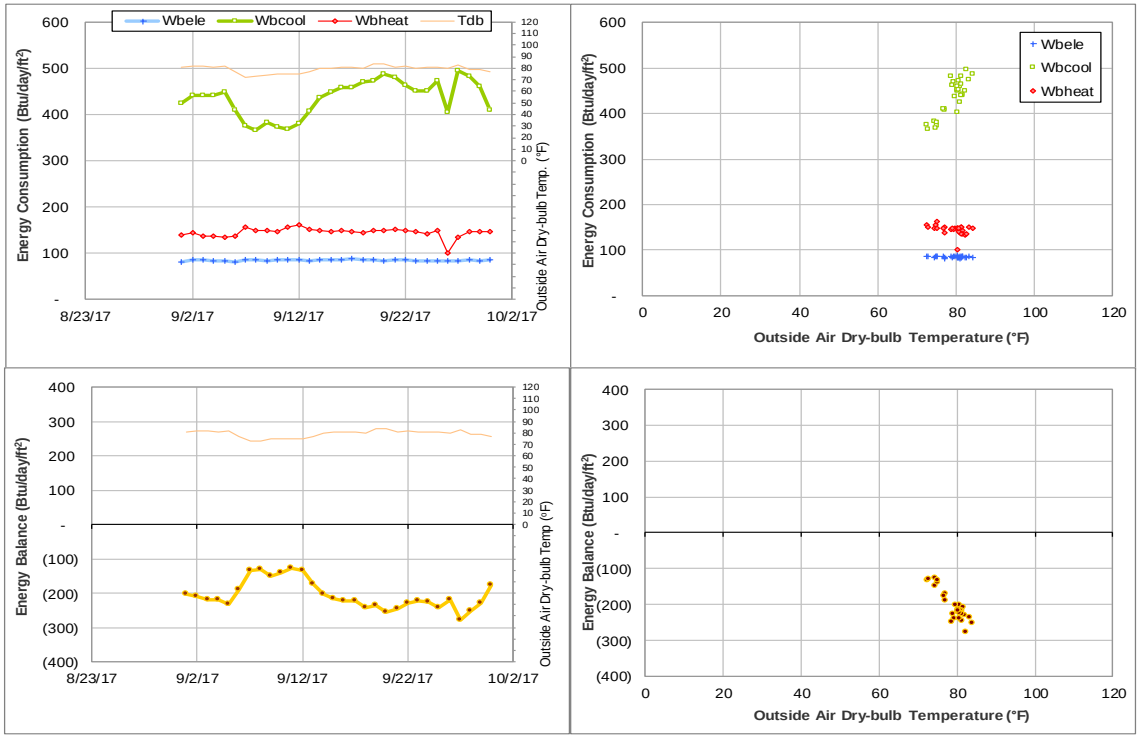


Figure IV-125 Hobby Residence Hall TAMU BLDG # 653 Energy Balance Plot during September 2017

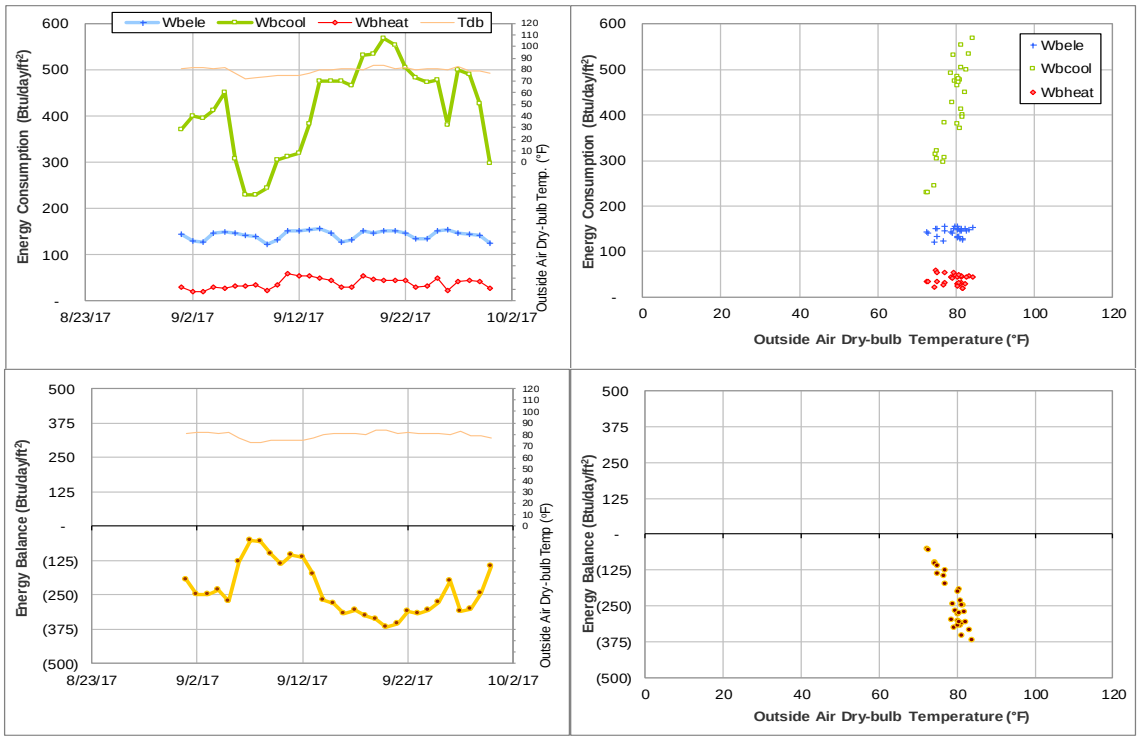


Figure IV-126 Wisenbaker Engineering Research Center TAMU BLDG # 682 Energy Balance Plot during September 2017

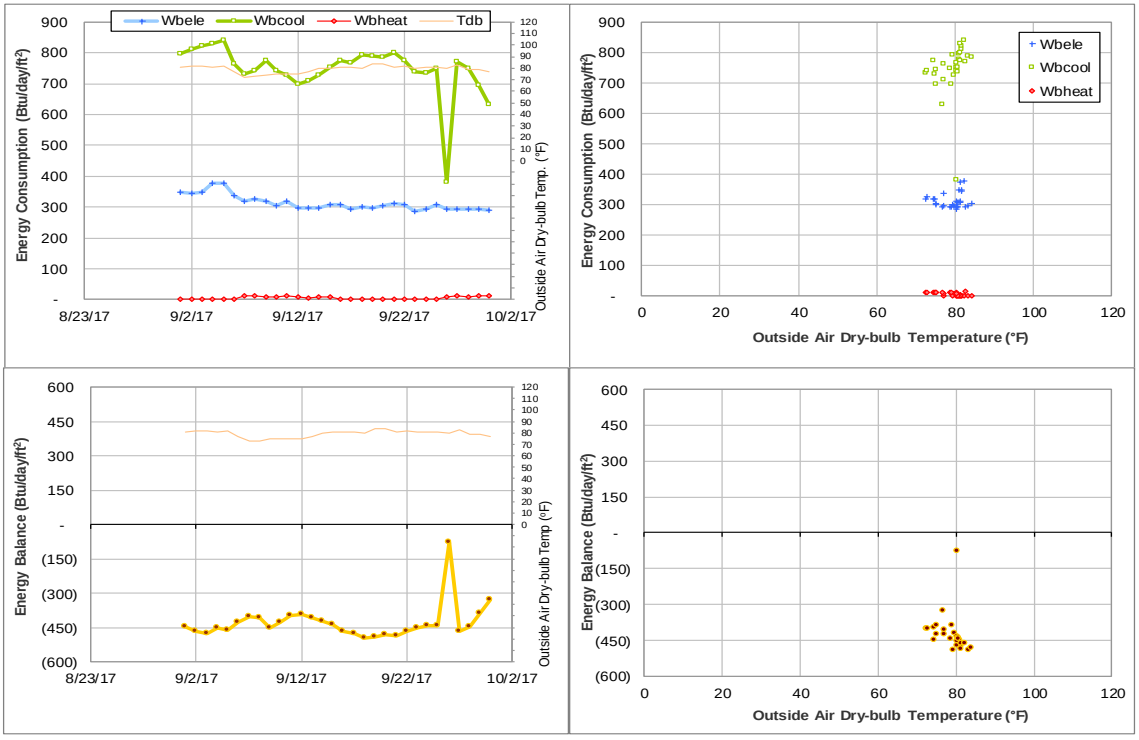


Figure IV-127 McNew Laboratory TAMU BLDG # 740 Energy Balance Plot during September 2017

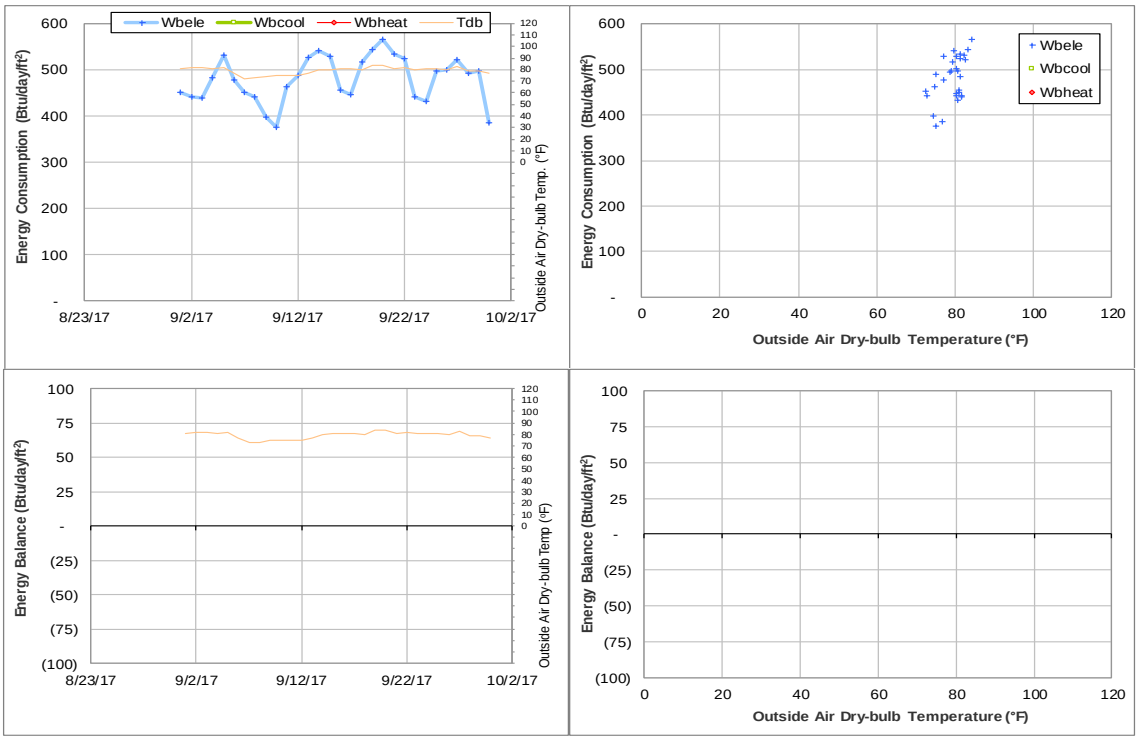


Figure IV-128 Soil Testing Labs TAMU BLDG # 806 Energy Balance Plot during September 2017

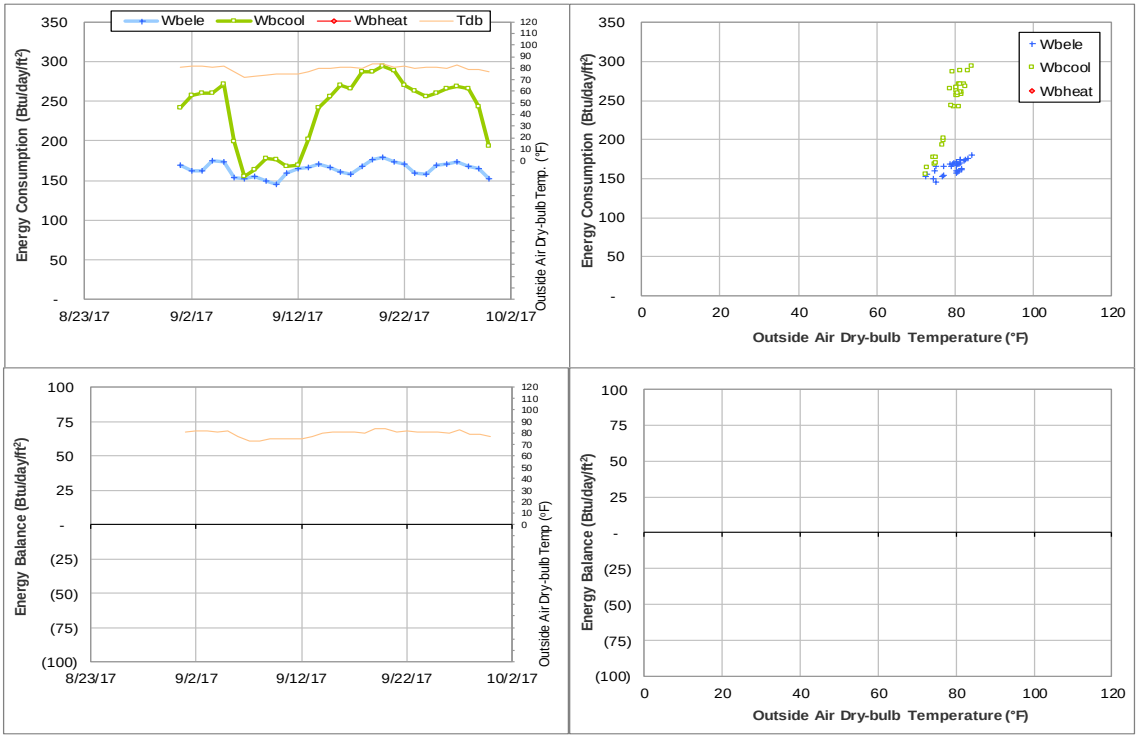


Figure IV-129 Entomology Research Lab TAMU BLDG # 815 Energy Balance Plot during September 2017

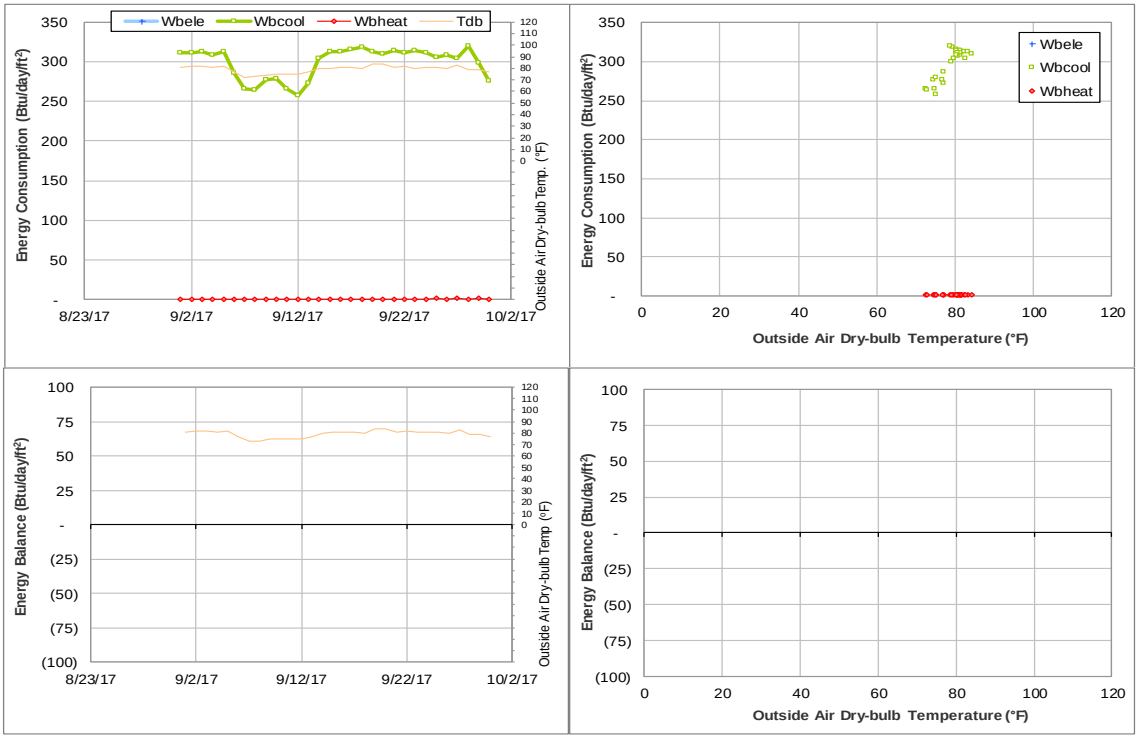


Figure IV-130 TVMC-Small Animal Building TAMU BLDG # 880 Energy Balance Plot during September 2017

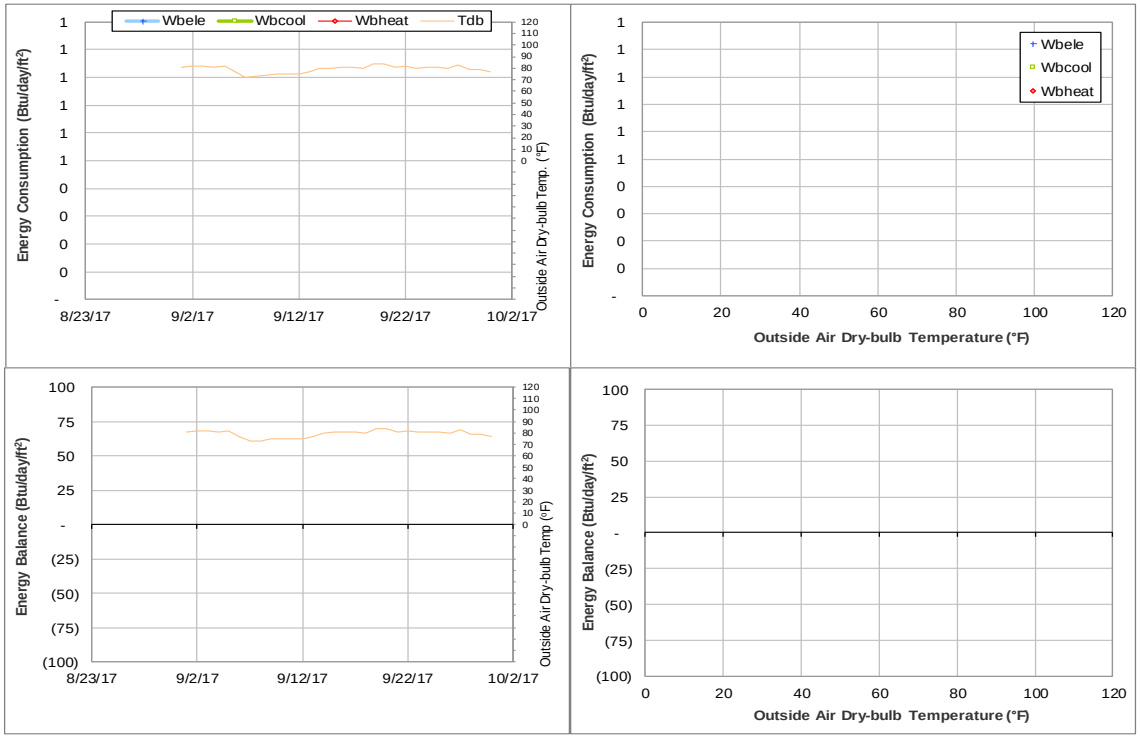


Figure IV-131 Dollar Data Center TAMU BLDG # 971 Energy Balance Plot during September 2017

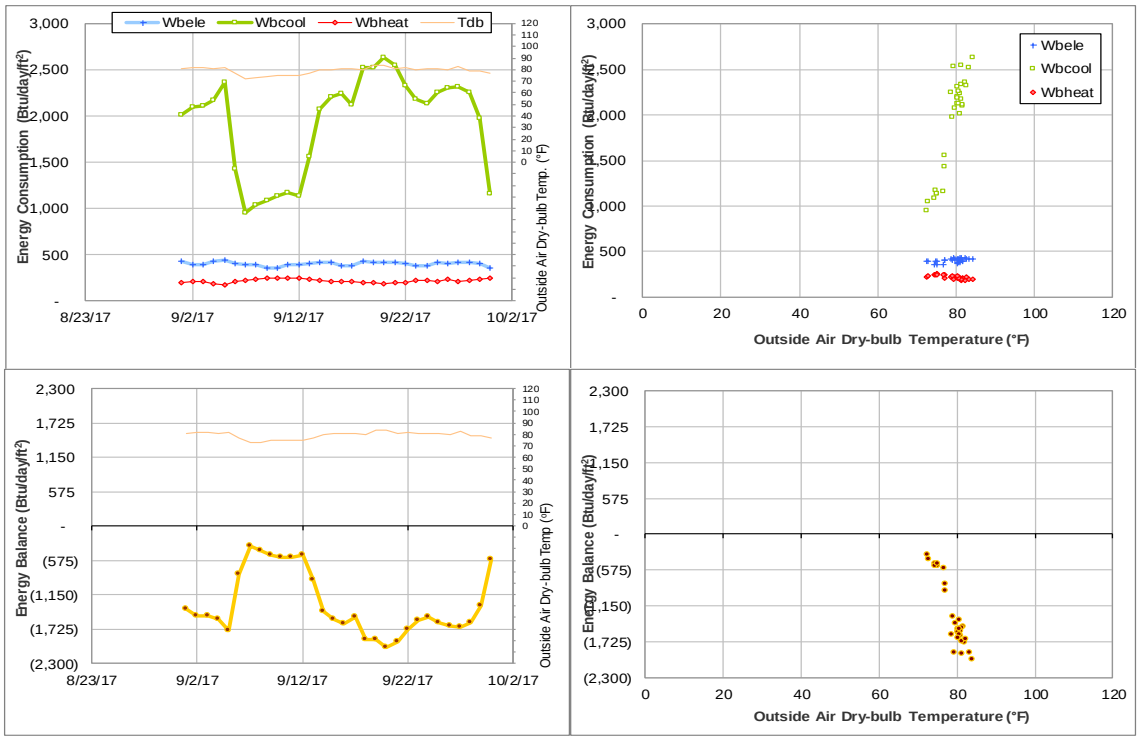


Figure IV-132 Laboratory Animal Care Building TAMU BLDG # 972 Energy Balance Plot during September 2017

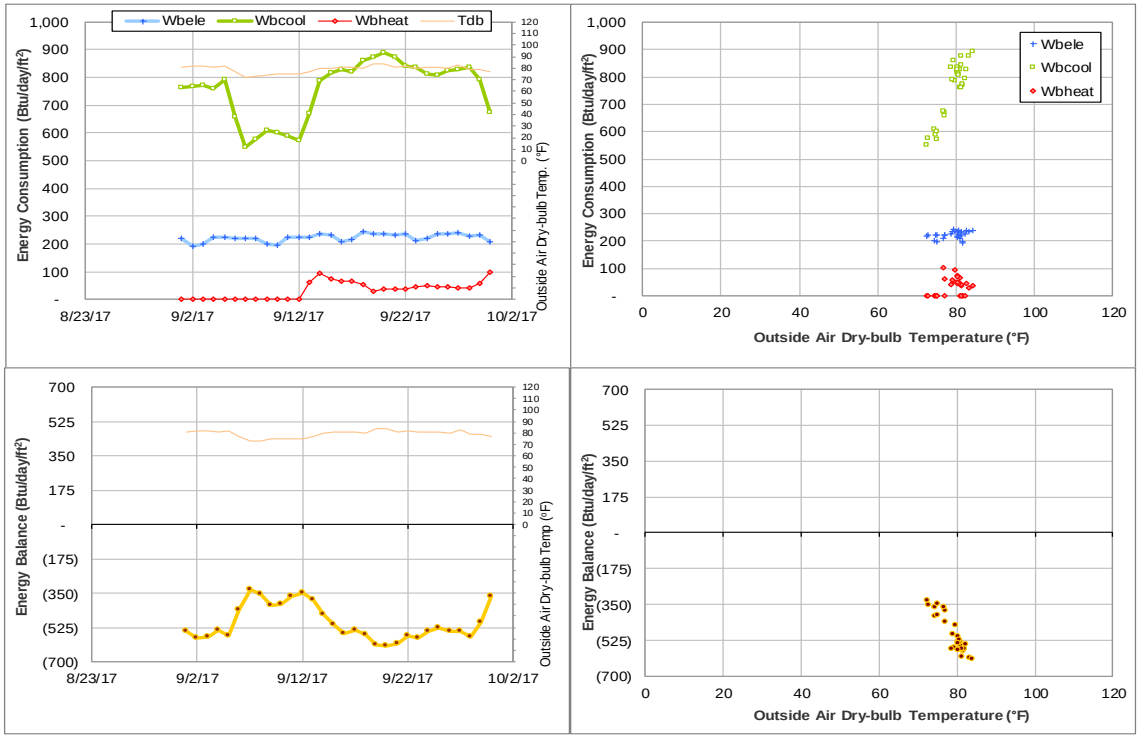


Figure IV-133 Vivarium III TAMU BLDG # 1020 Energy Balance Plot during September 2017

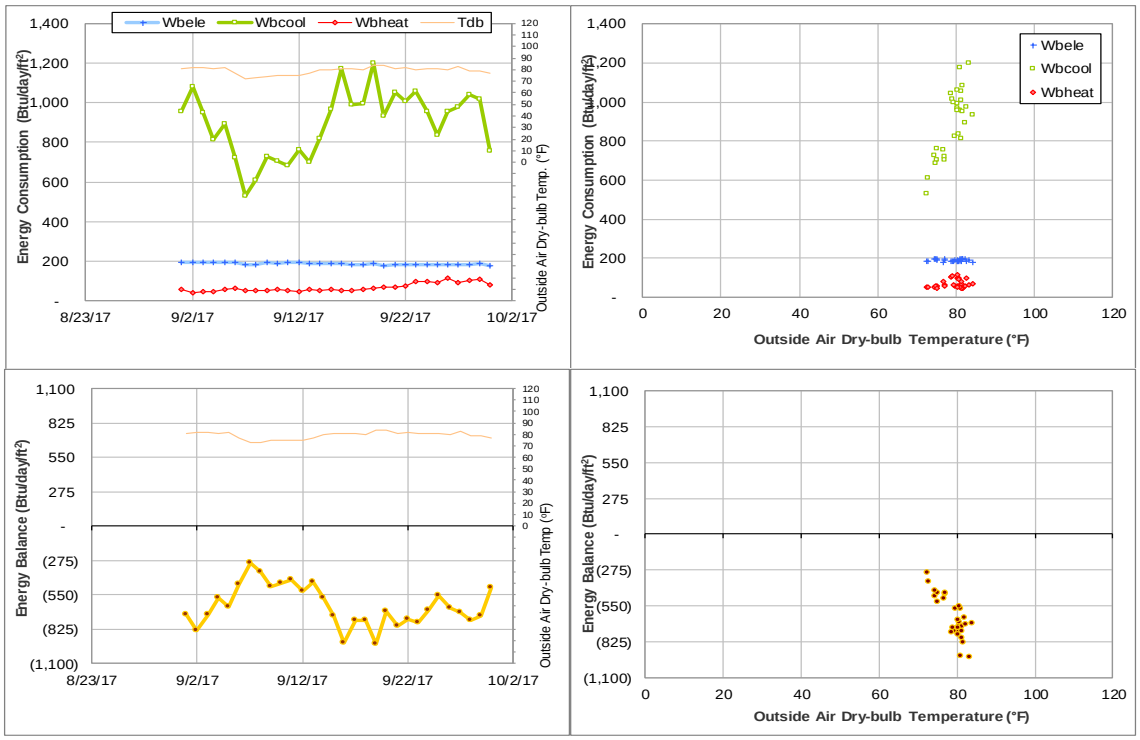


Figure IV-134 Texas Vet Med Diagnostic Lab TAMU BLDG # 1041 Energy Balance Plot during September 2017

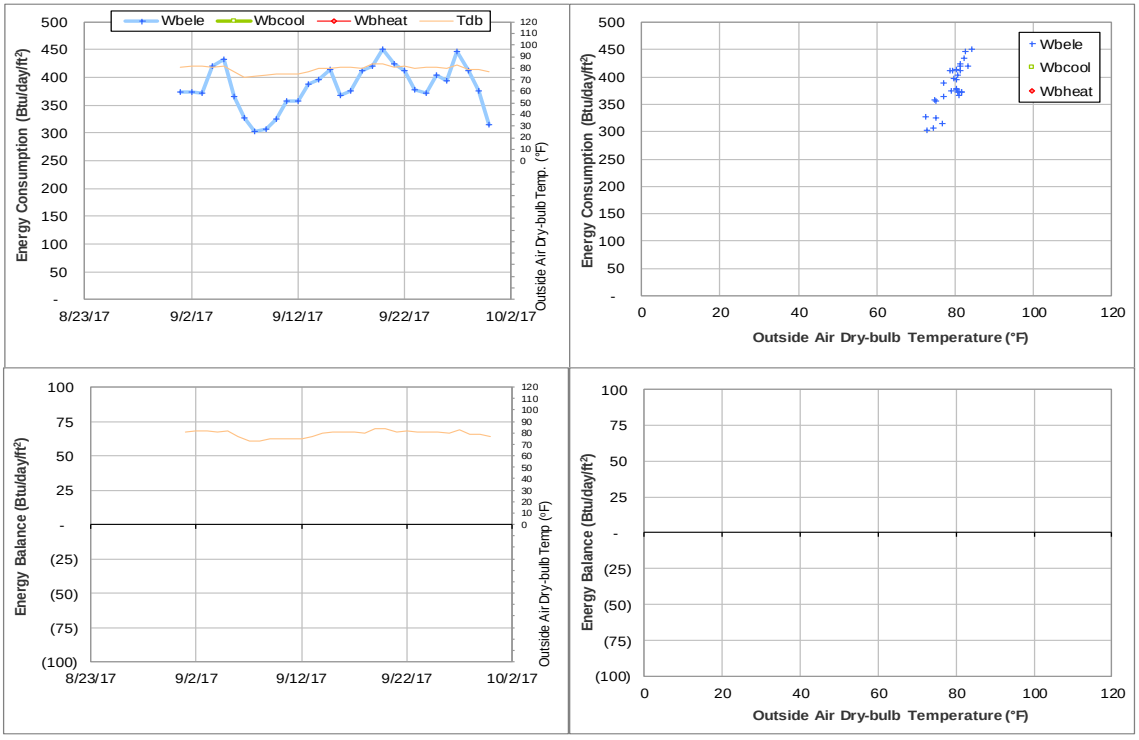


Figure IV-135 Forest Science Laboratory Building TAMU BLDG # 1042 Energy Balance Plot during September 2017

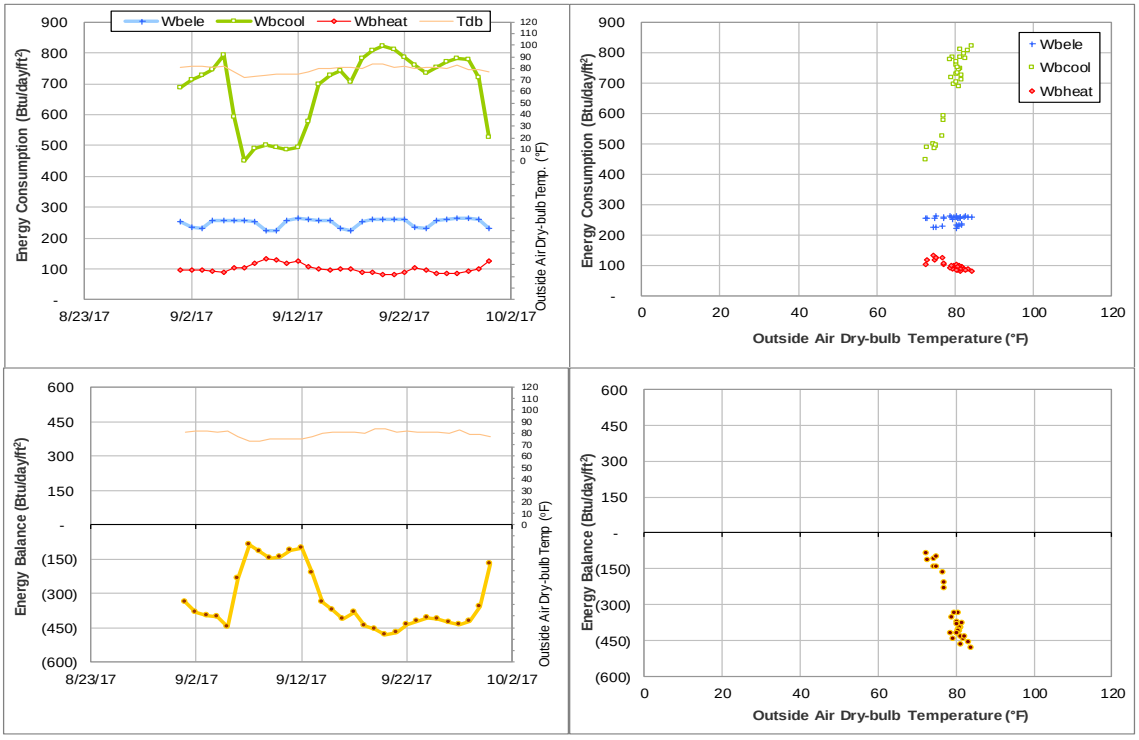


Figure IV-136 Veterinary Small Animal Hospital TAMU BLDG # 1085 Energy Balance Plot during September 2017

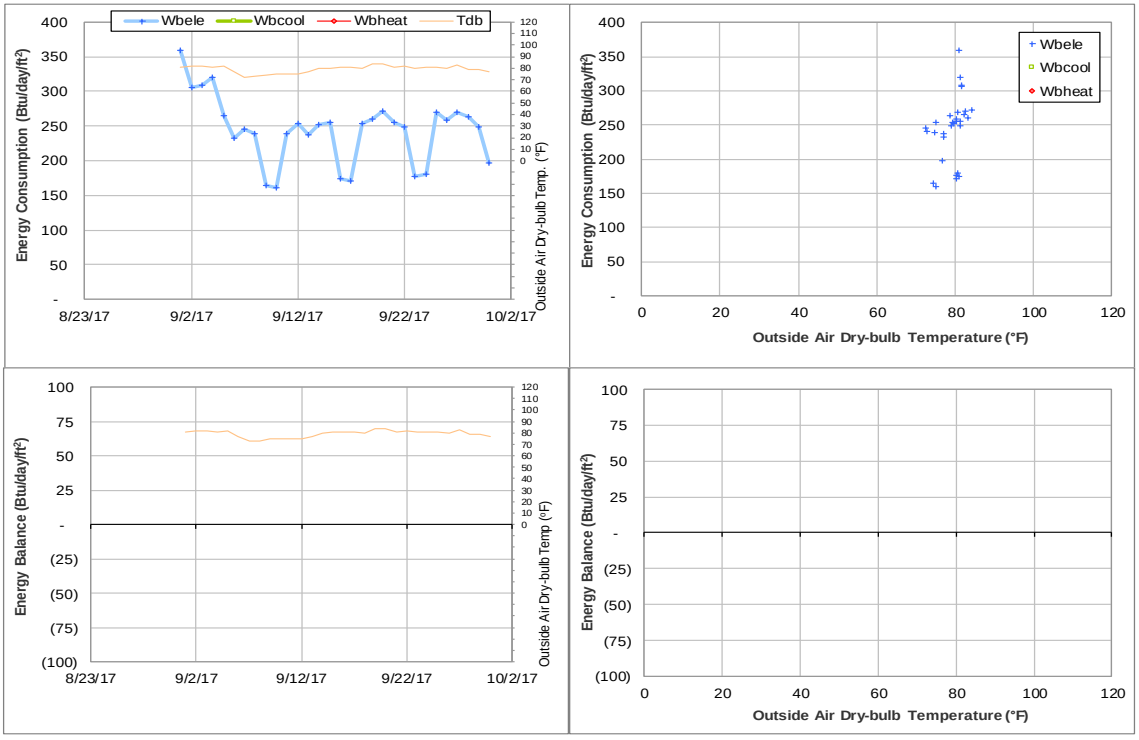


Figure IV-137 Utilities Energy Office Annex TAMU BLDG # 1089 Energy Balance Plot during September 2017

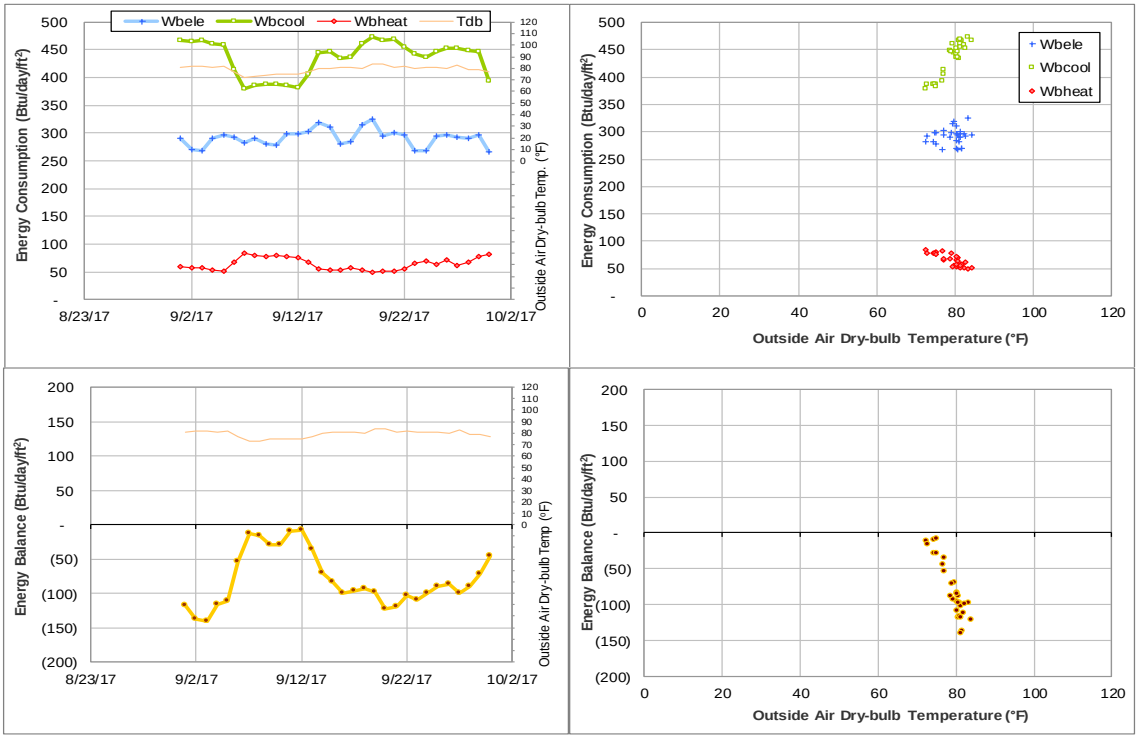


Figure IV-138 Biological Control Facility TAMU BLDG # 1146 Energy Balance Plot during September 2017

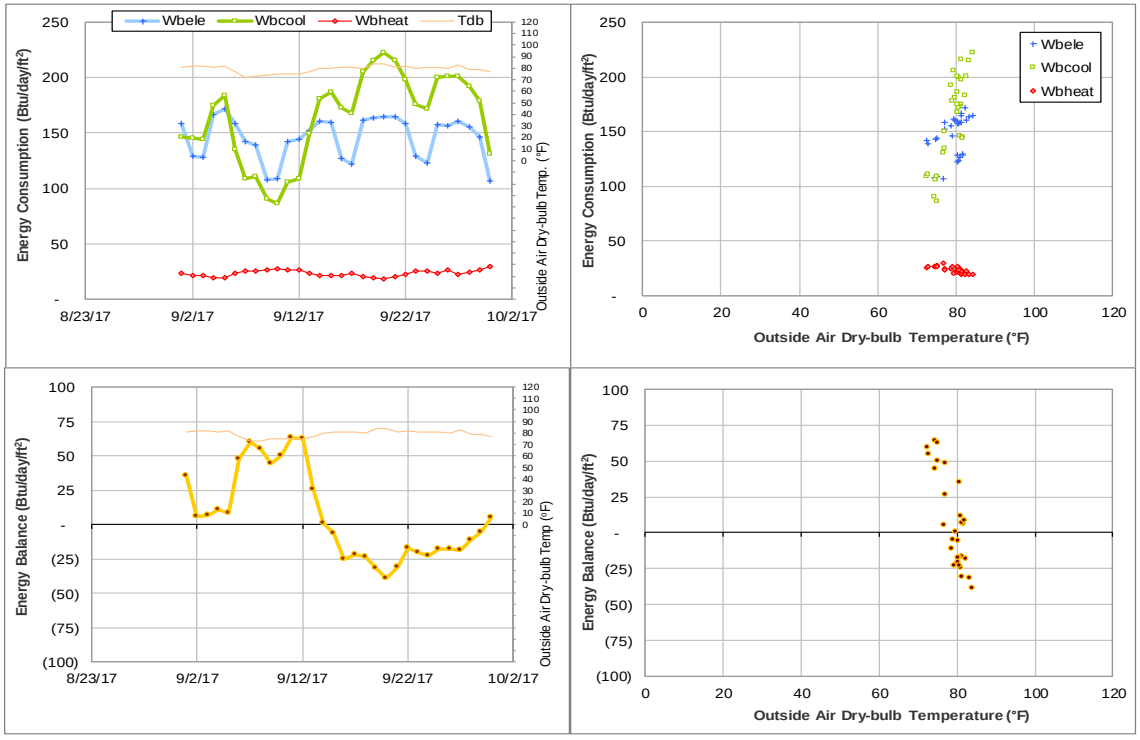


Figure IV-139 Physical Plant Administration & Shops TAMU BLDG # 1156 Energy Balance Plot during September 2017

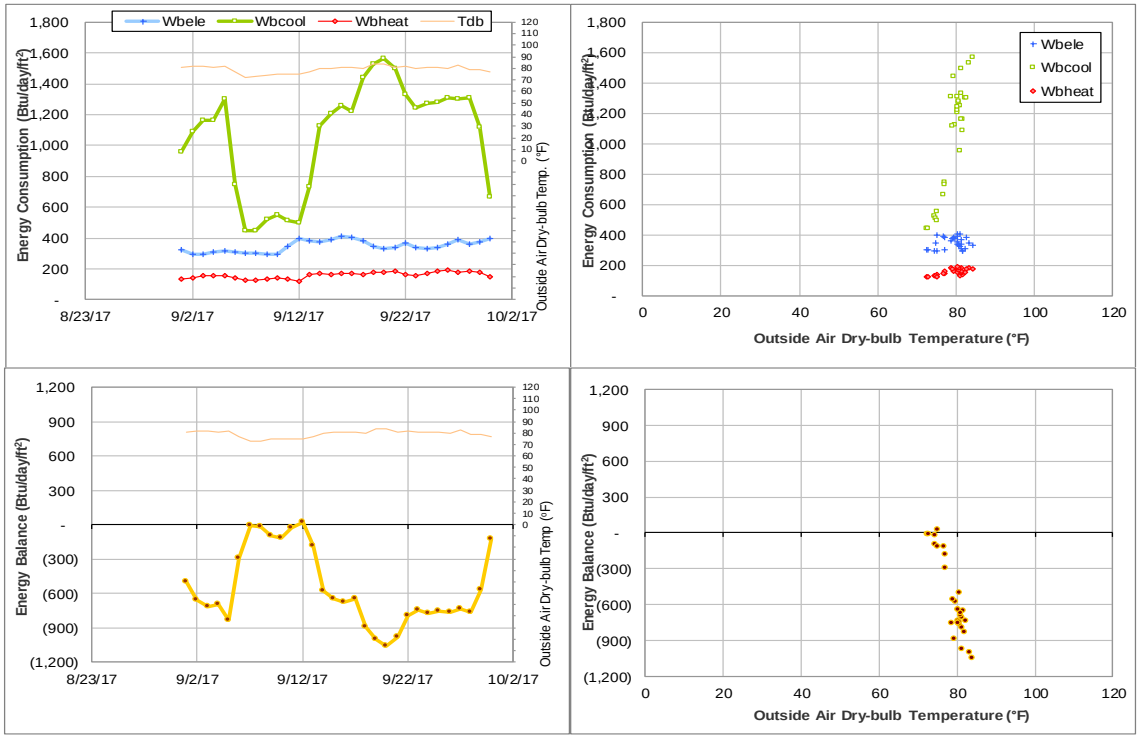


Figure IV-140 Veterinary Anatomic Pathology TAMU BLDG # 1184 Energy Balance Plot during September 2017

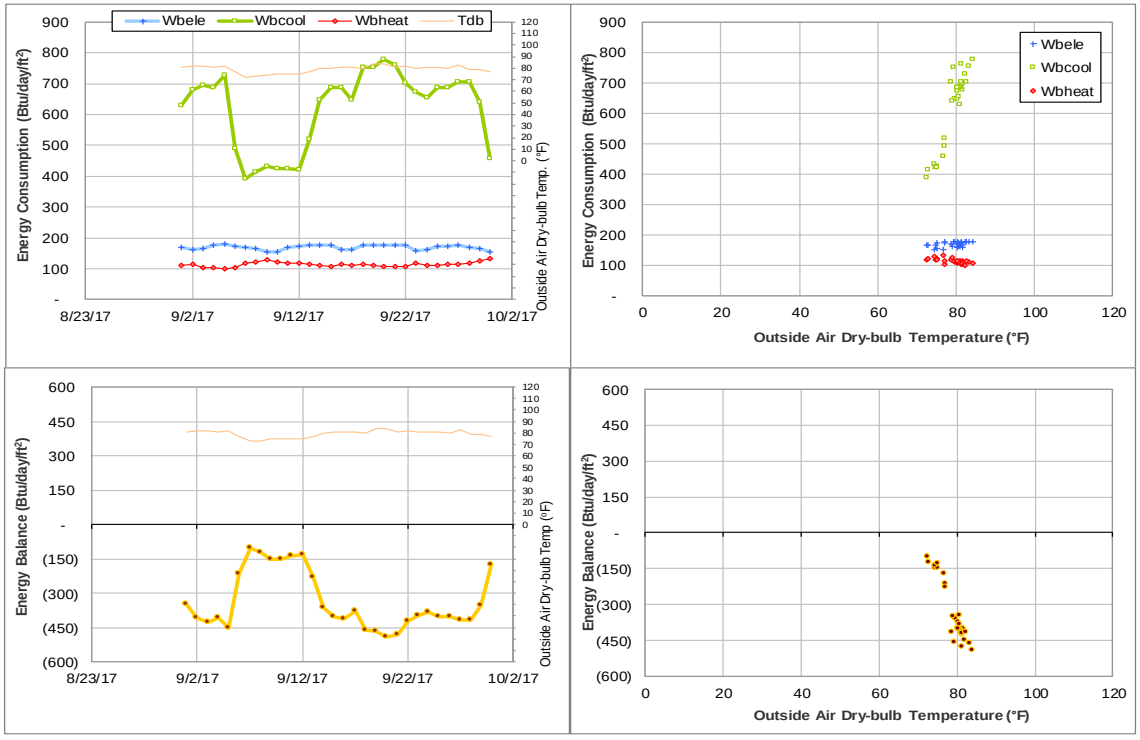


Figure IV-141 Veterinary Large Animal Hospital TAMU BLDG # 1194 Energy Balance Plot during September 2017

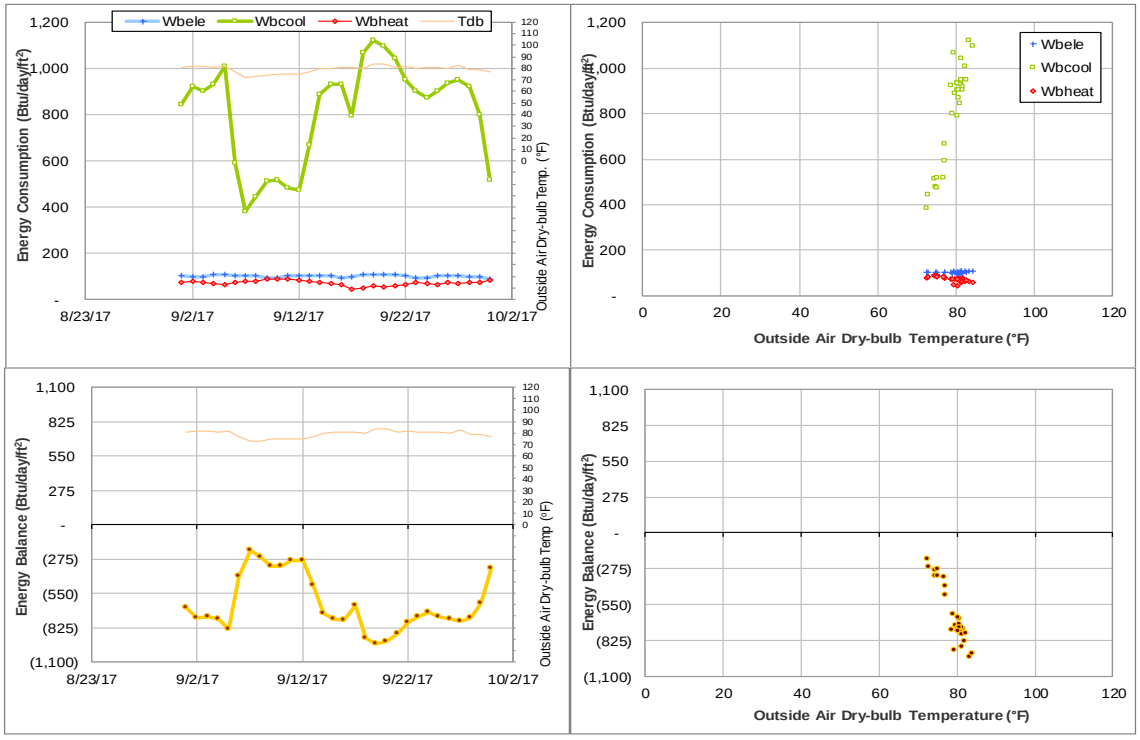


Figure IV-142 Veterinary Research Building TAMU BLDG # 1197 Energy Balance Plot during September 2017

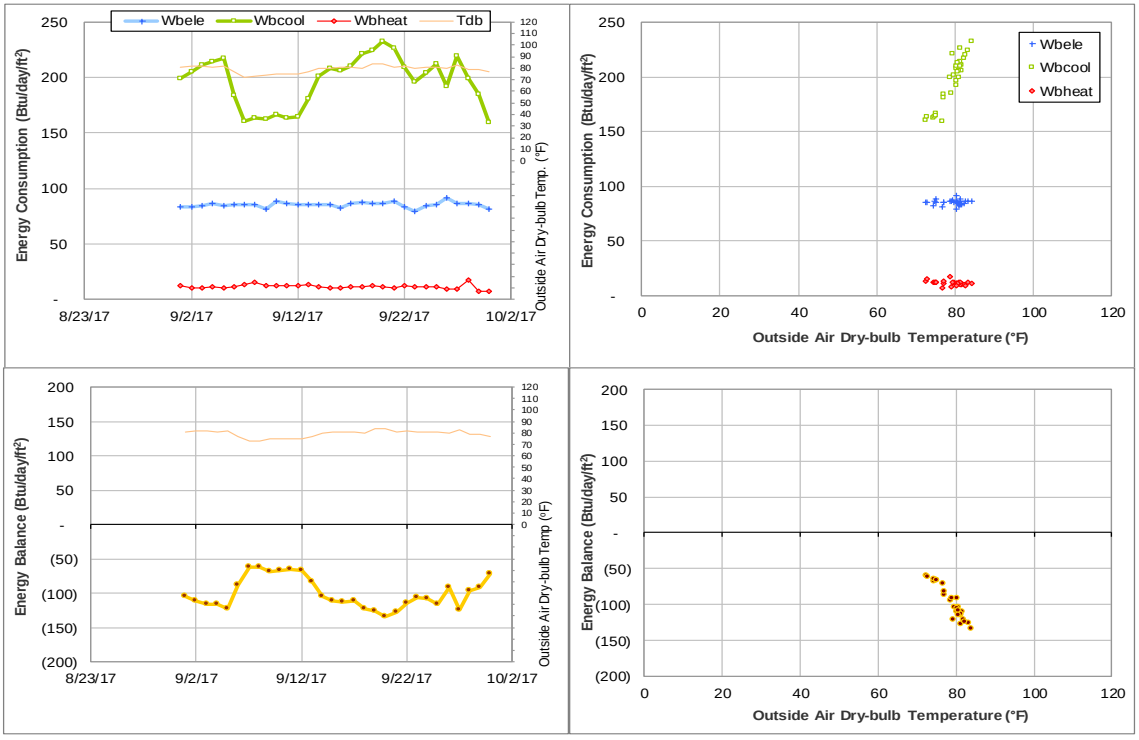


Figure IV-143 Hullabaloo Residence Hall TAMU BLDG # 1416 Energy Balance Plot during September 2017

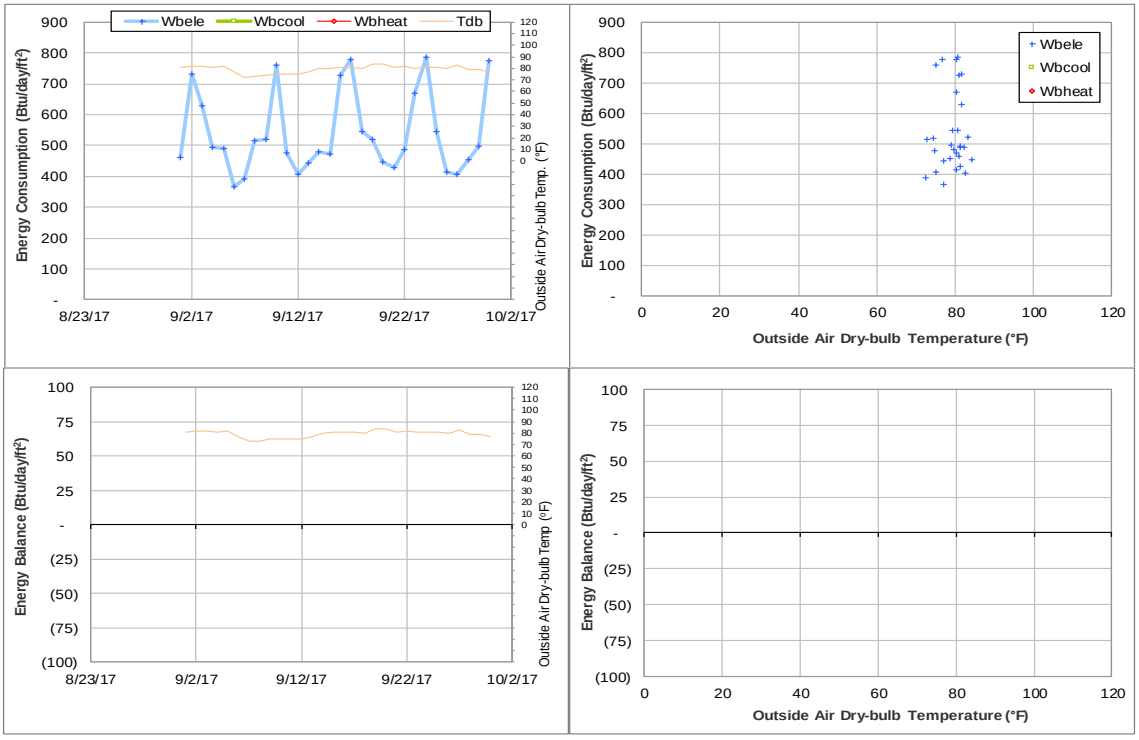


Figure IV-144 University Apartments - Laundry at the Gardens TAMU BLDG # 1450 Energy Balance Plot during September 2017

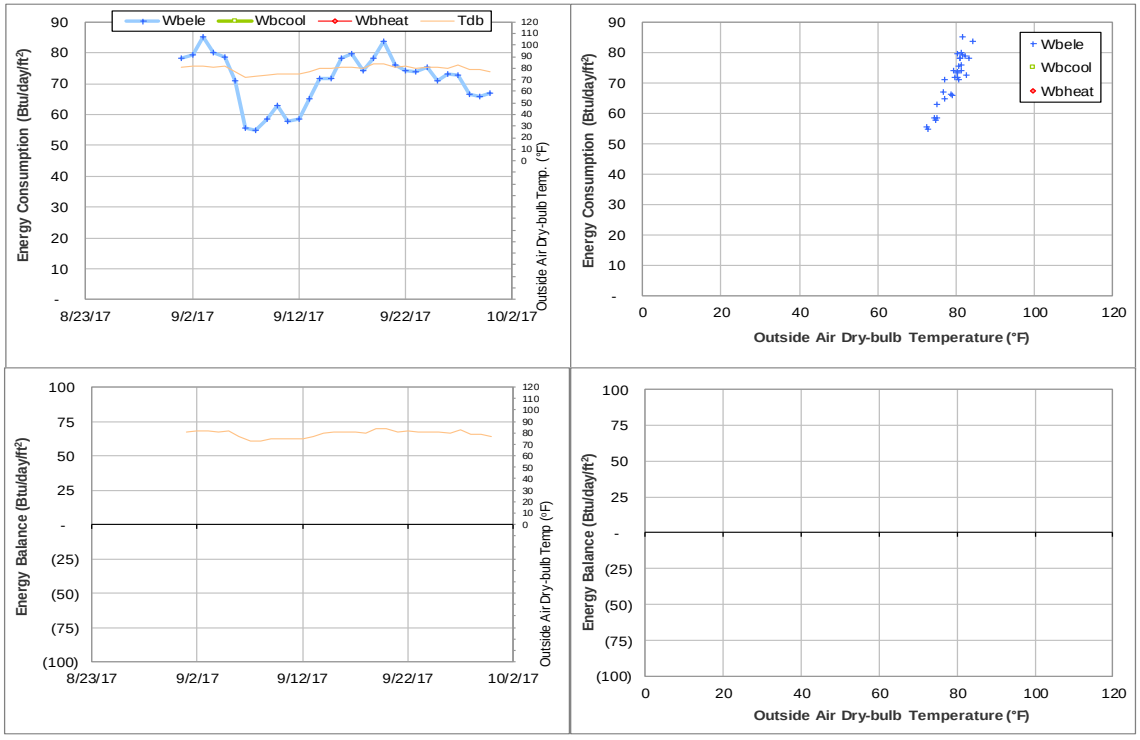


Figure IV-145 University Apartments - The Gardens J TAMU BLDG # 1451 Energy Balance Plot during September 2017

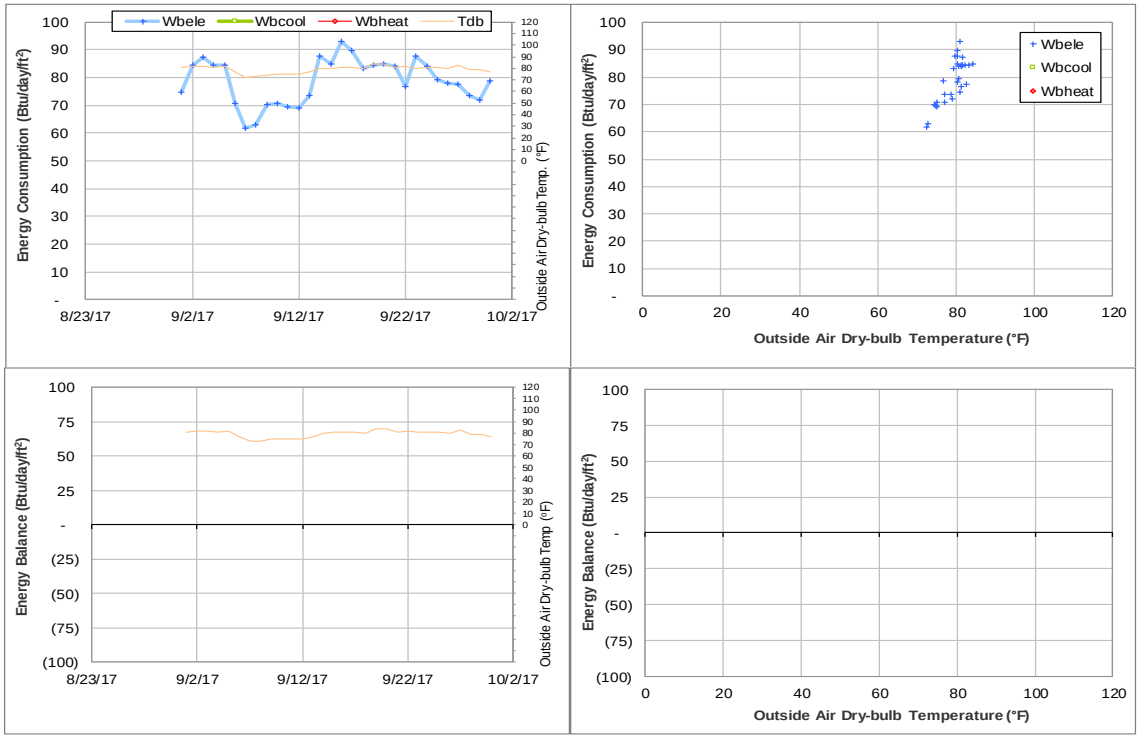


Figure IV-146 University Apartments - The Gardens K TAMU BLDG # 1452 Energy Balance Plot during September 2017

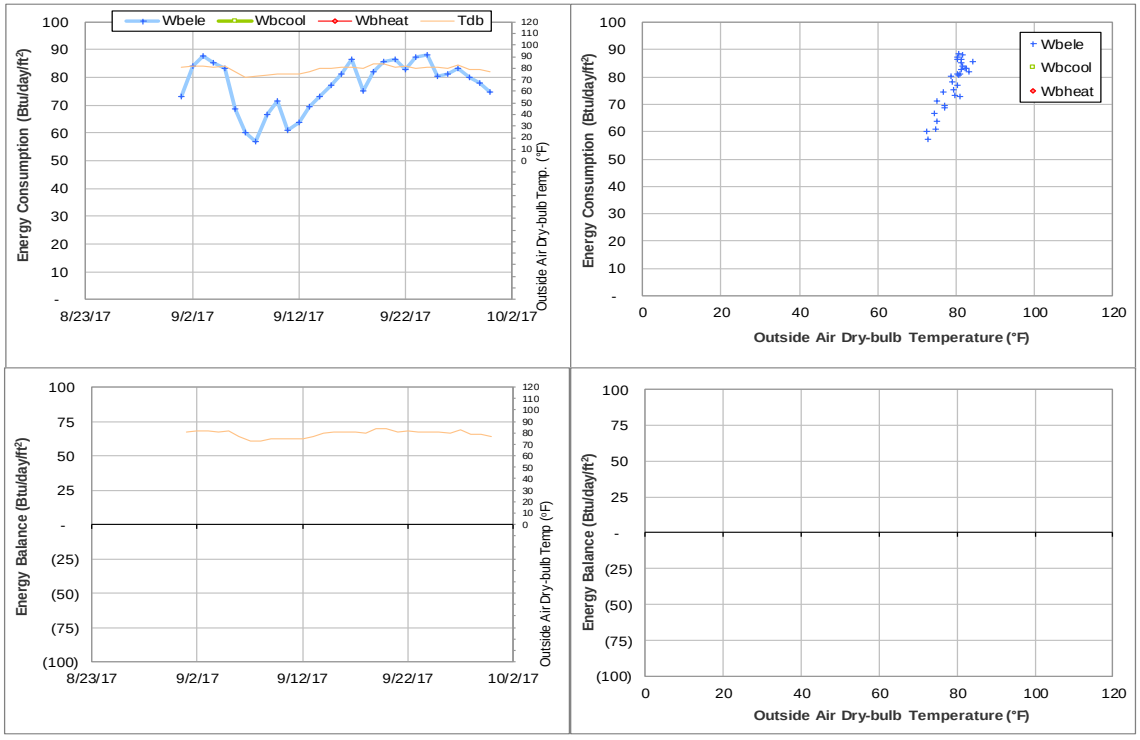


Figure IV-147 University Apartments - The Gardens L TAMU BLDG # 1453 Energy Balance Plot during September 2017

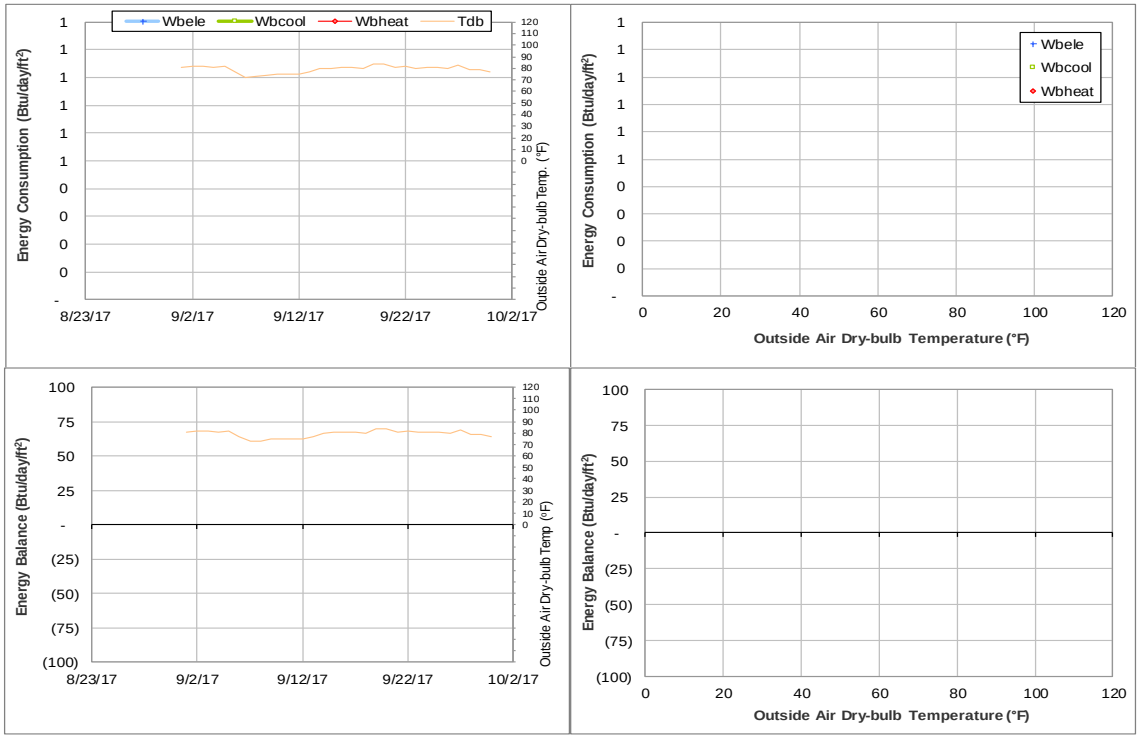


Figure IV-148 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during September 2017

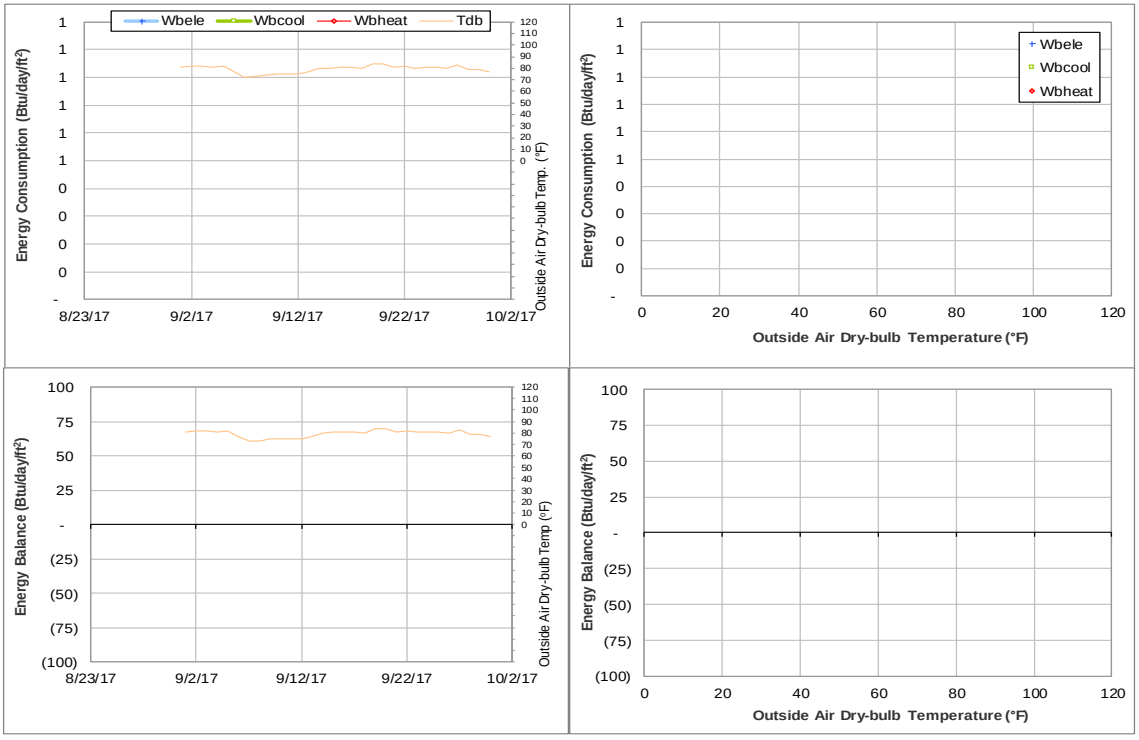


Figure IV-149 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during September 2017

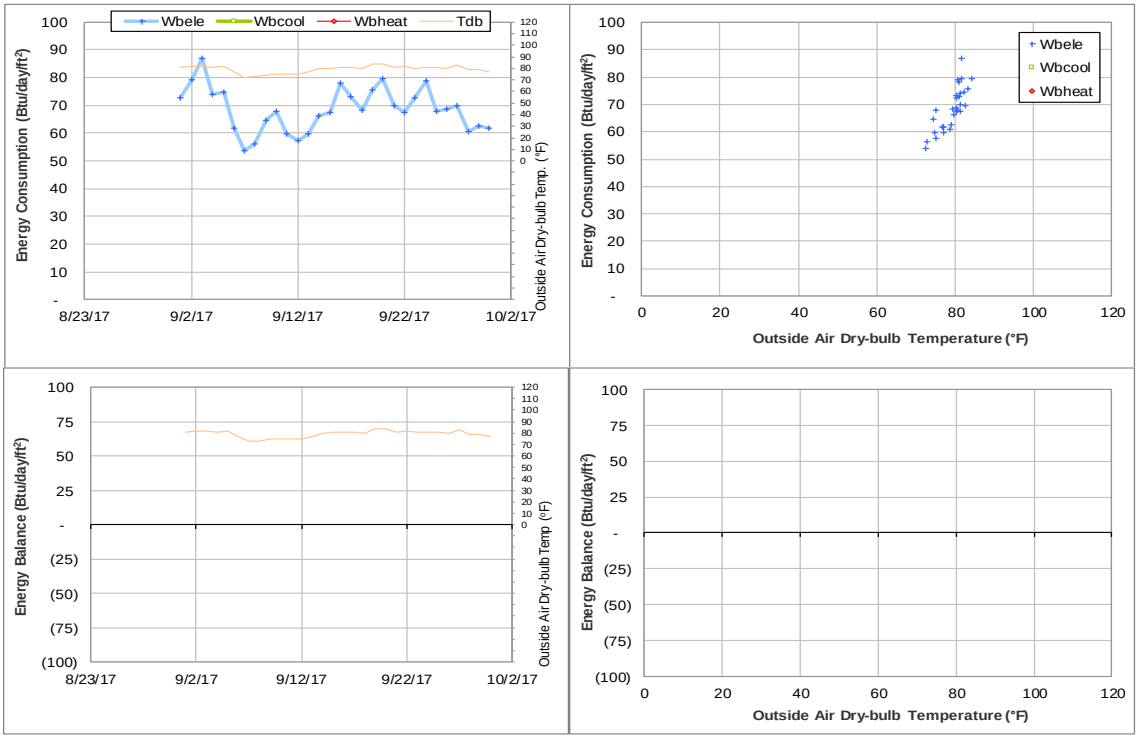


Figure IV-150 University Apartments - The Gardens H TAMU BLDG # 1456 Energy Balance Plot during September 2017

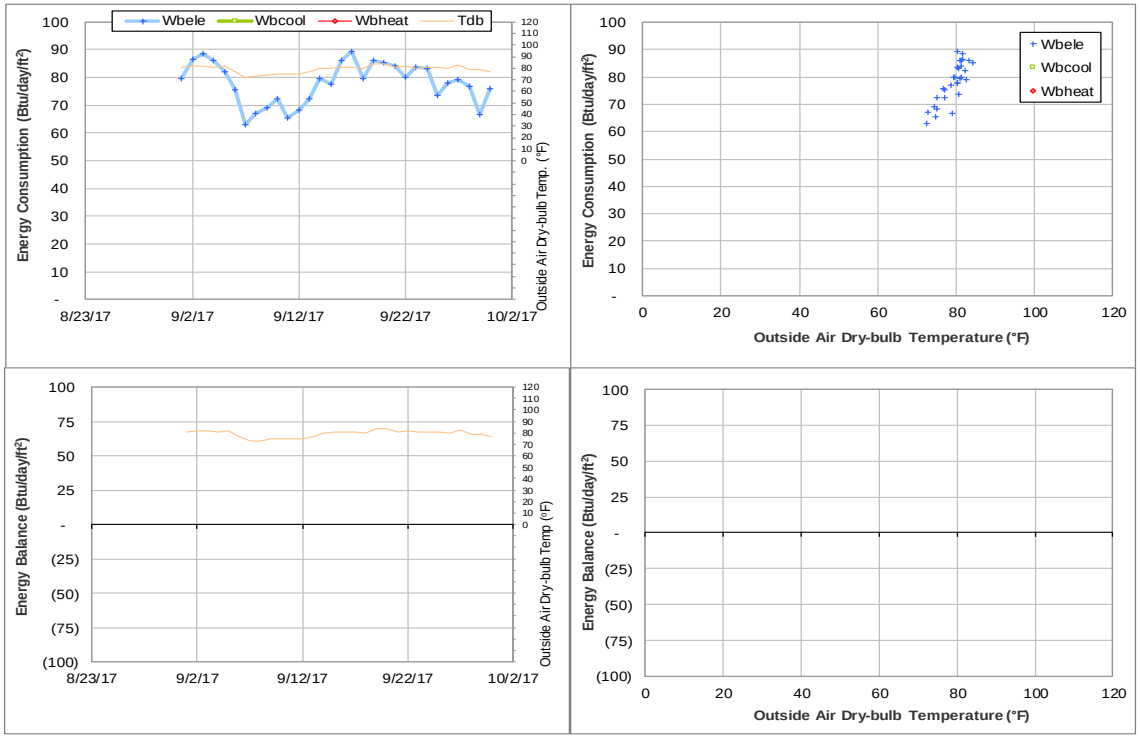


Figure IV-151 University Apartments - The Gardens M TAMU BLDG # 1457 Energy Balance Plot during September 2017

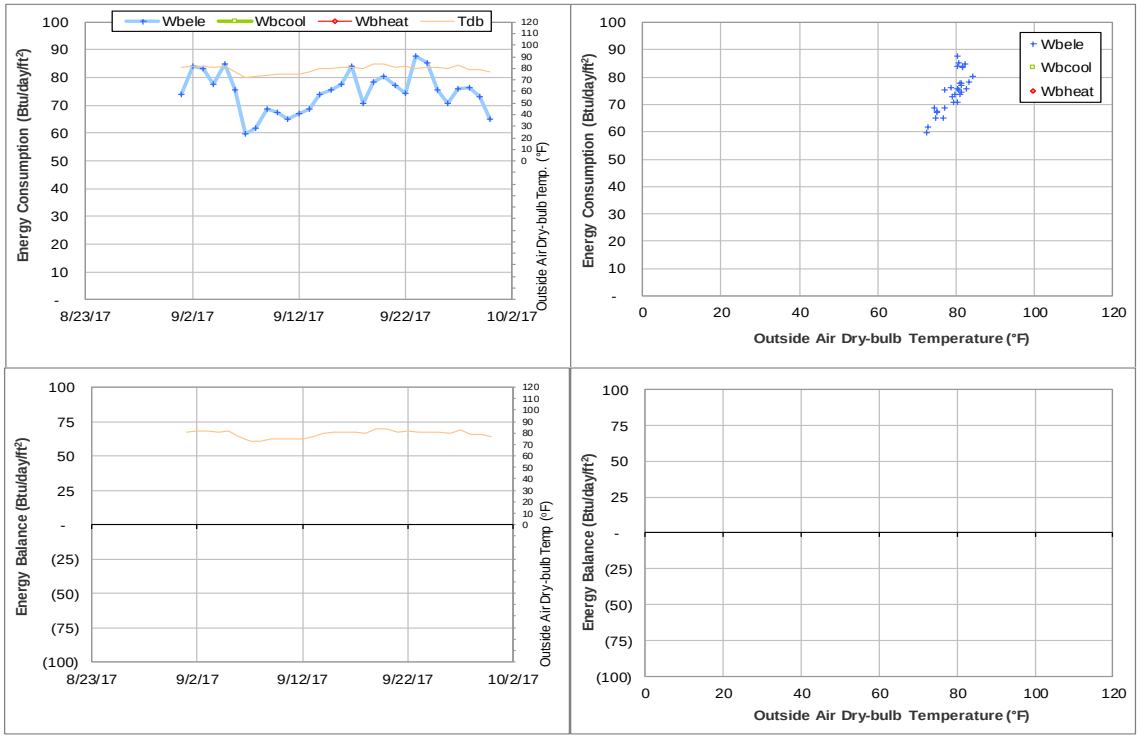


Figure IV-152 University Apartments - The Gardens N TAMU BLDG # 1458 Energy Balance Plot during September 2017

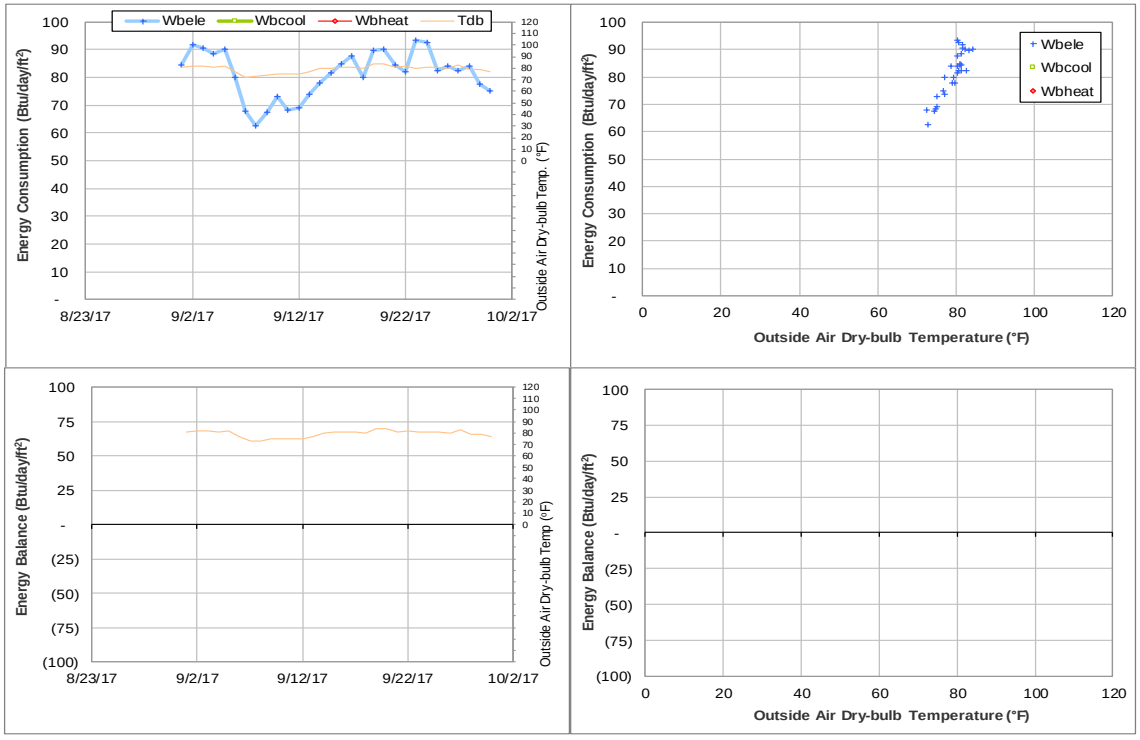


Figure IV-153 University Apartments - The Gardens P TAMU BLDG # 1459 Energy Balance Plot during September 2017

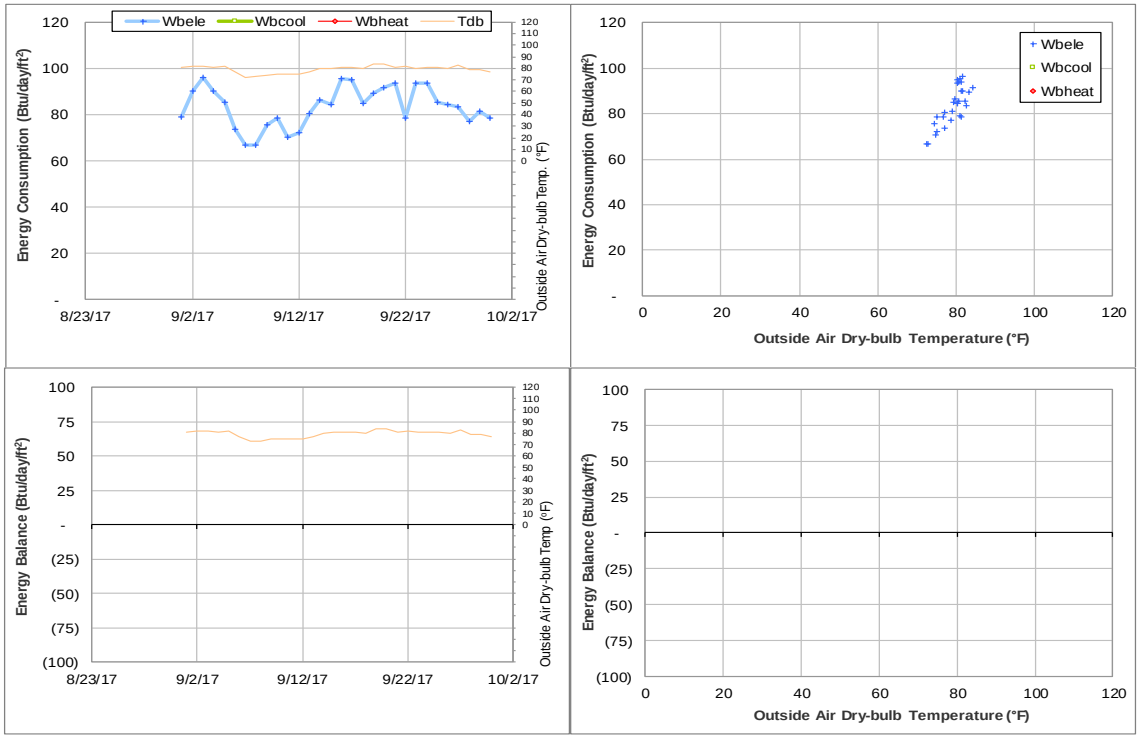


Figure IV-154 University Apartments - The Gardens Q TAMU BLDG # 1460 Energy Balance Plot during September 2017

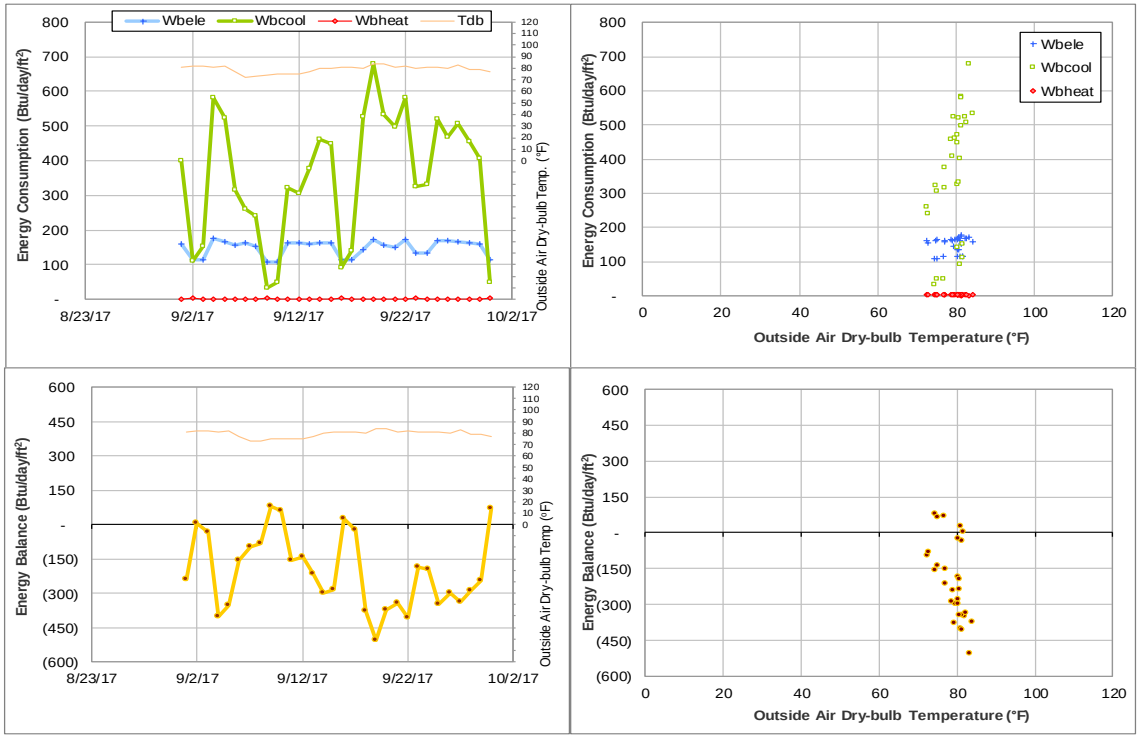


Figure IV-155 Utilities & Energy Services Business Office TAMU BLDG # 1497 Energy Balance Plot during September 2017

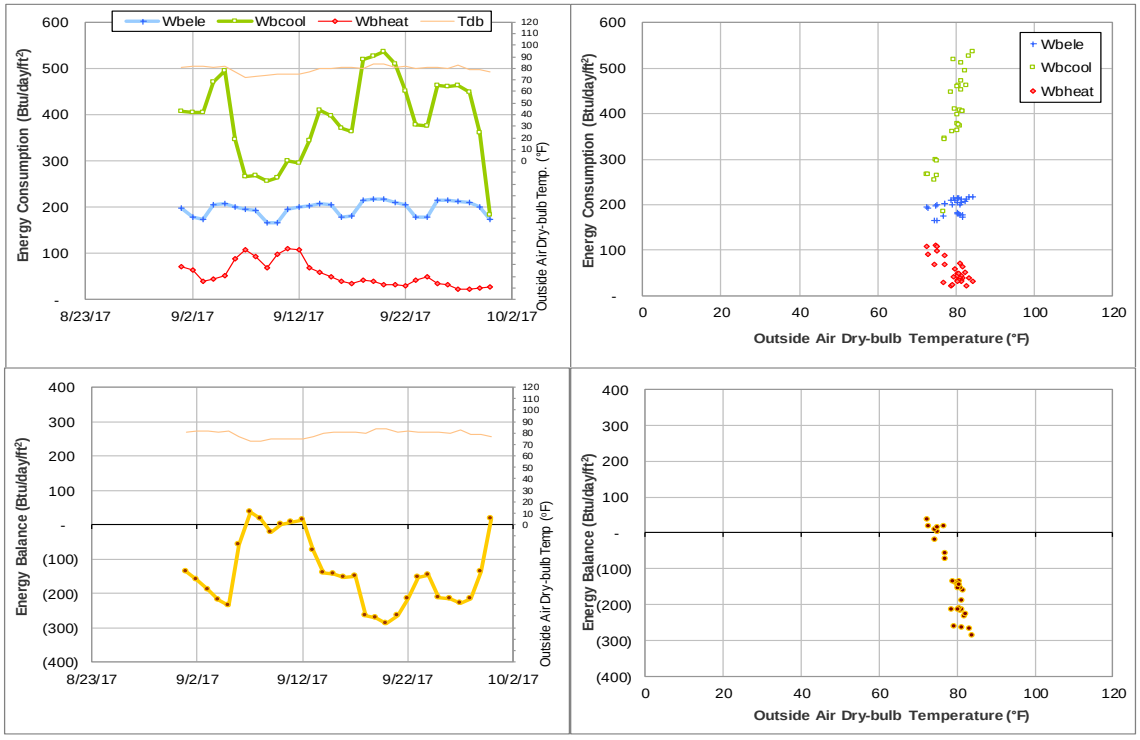


Figure IV-156 Kleberg Center TAMU BLDG # 1501 Energy Balance Plot during September 2017

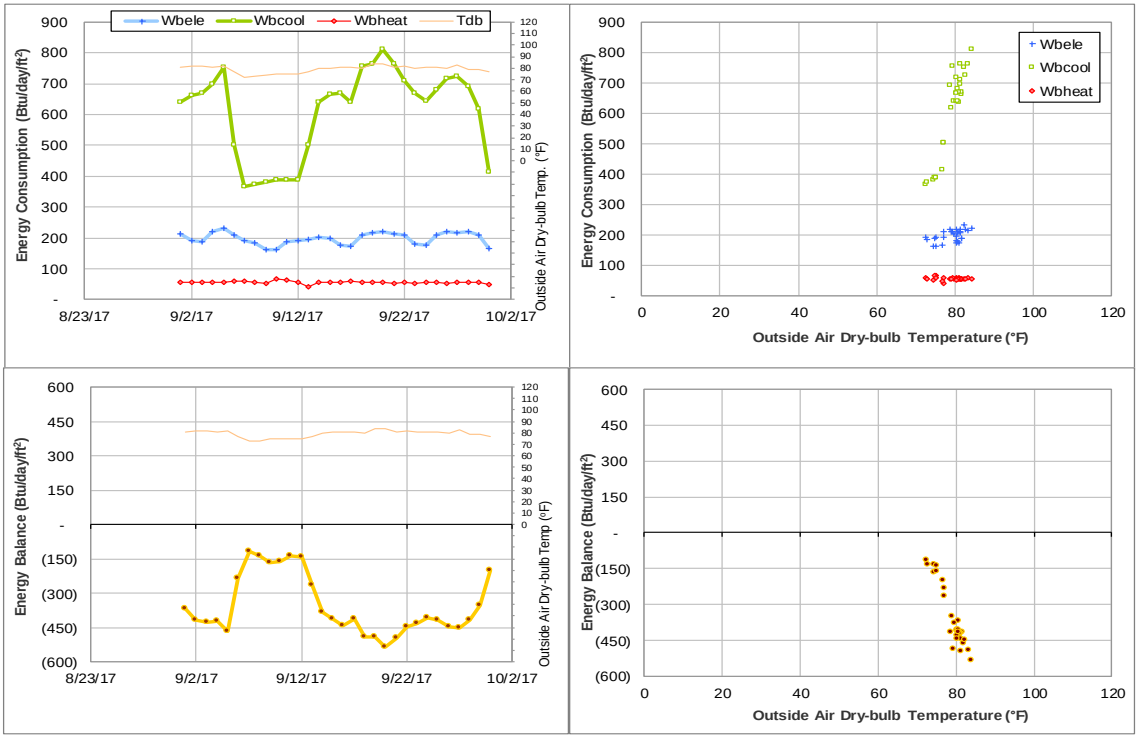


Figure IV-157 Heep Center TAMU BLDG # 1502 Energy Balance Plot during September 2017

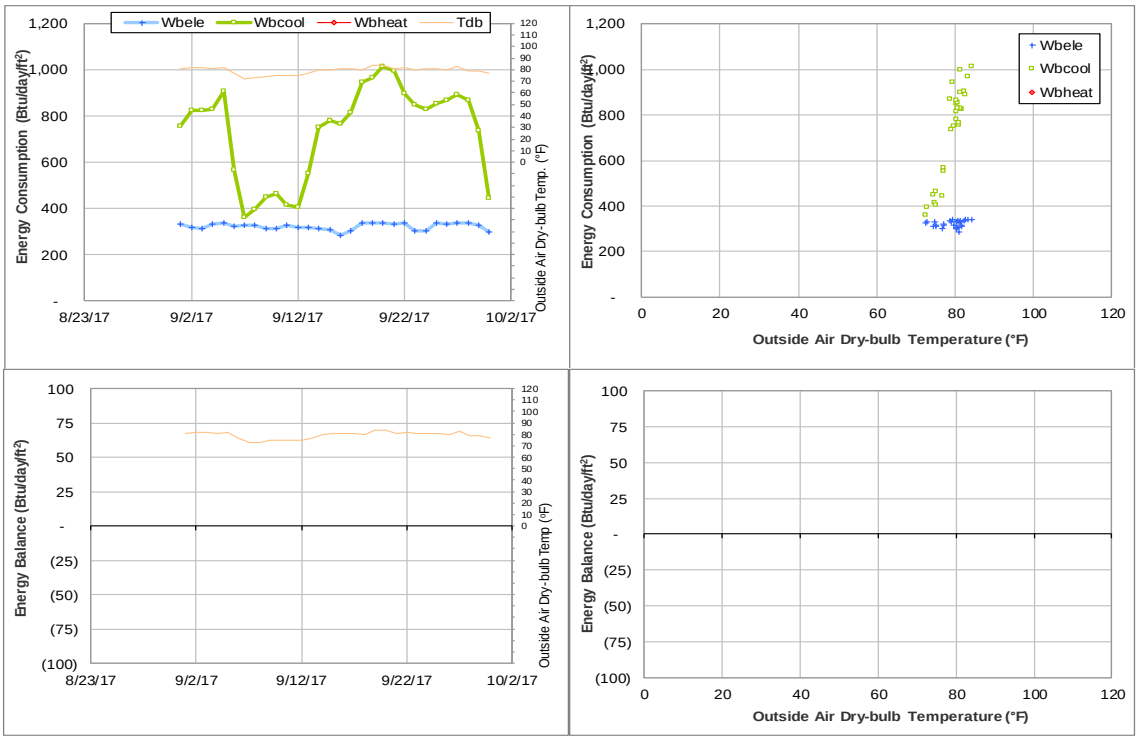


Figure IV-158 Cater-Mattil Hall TAMU BLDG # 1503 Energy Balance Plot during September 2017

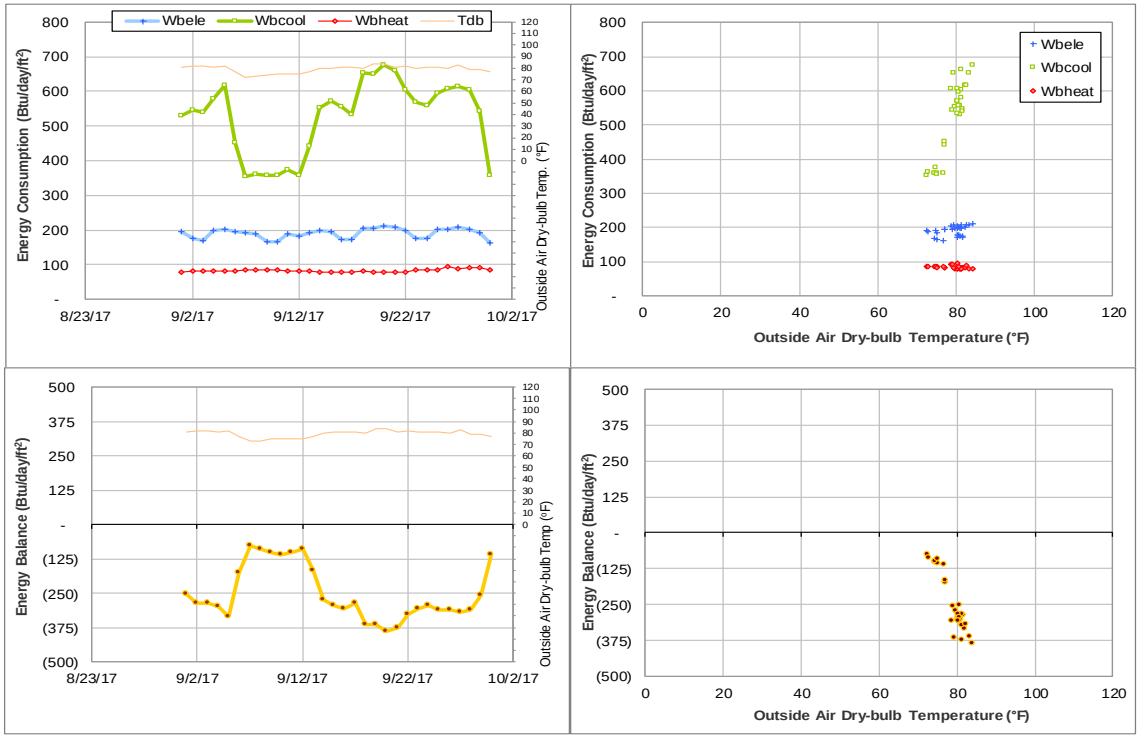


Figure IV-159 Reynolds Medical Sciences Building TAMU BLDG # 1504 Energy Balance Plot during September 2017

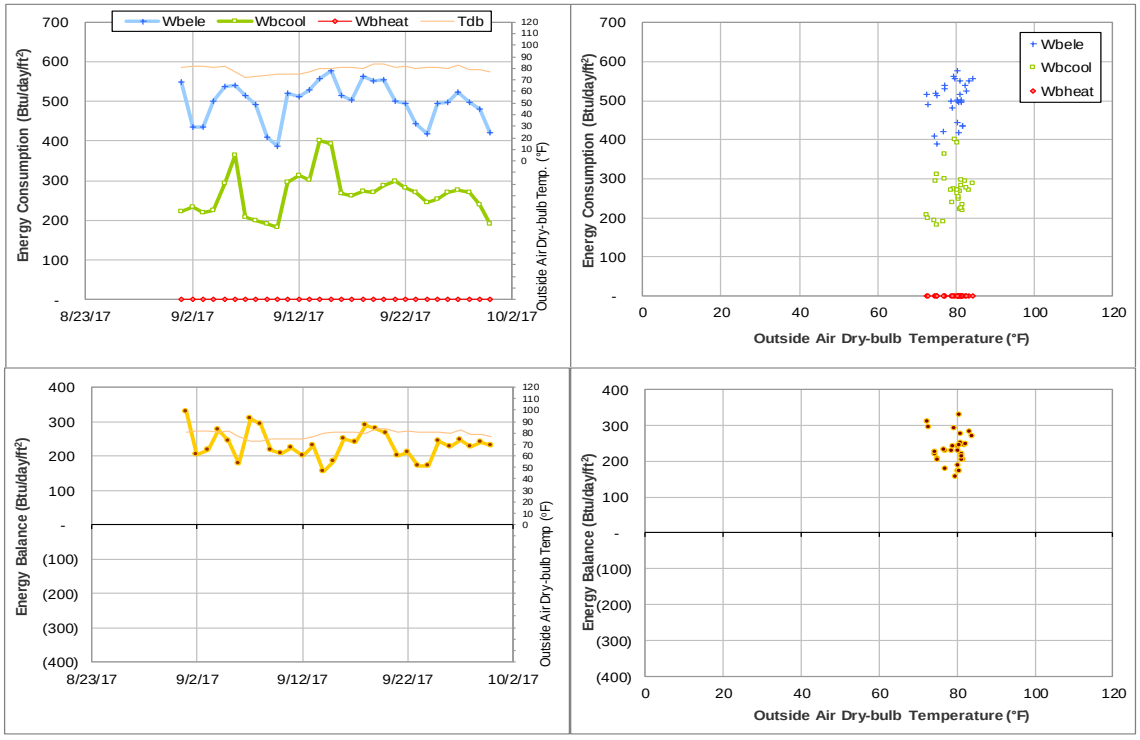


Figure IV-160 Rosenthal Meat Science & Technology Center TAMU BLDG # 1505 Energy Balance Plot during September 2017

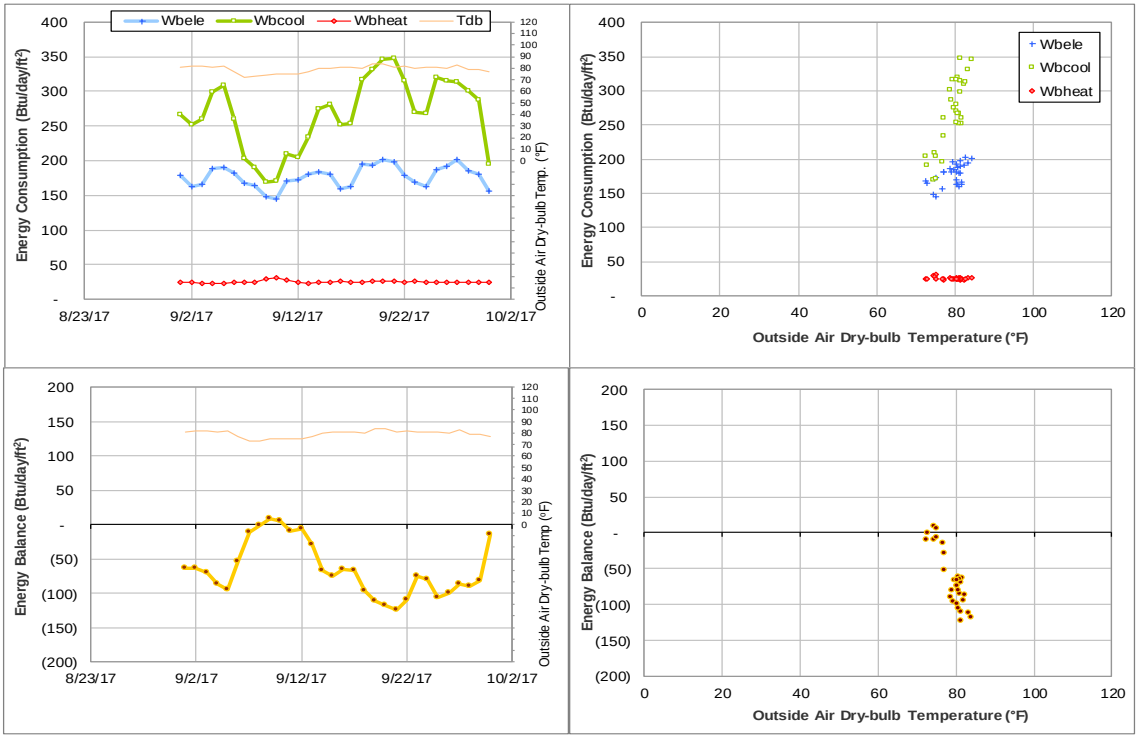


Figure IV-161 Horticulture-Forest Science Building TAMU BLDG # 1506 Energy Balance Plot during September 2017

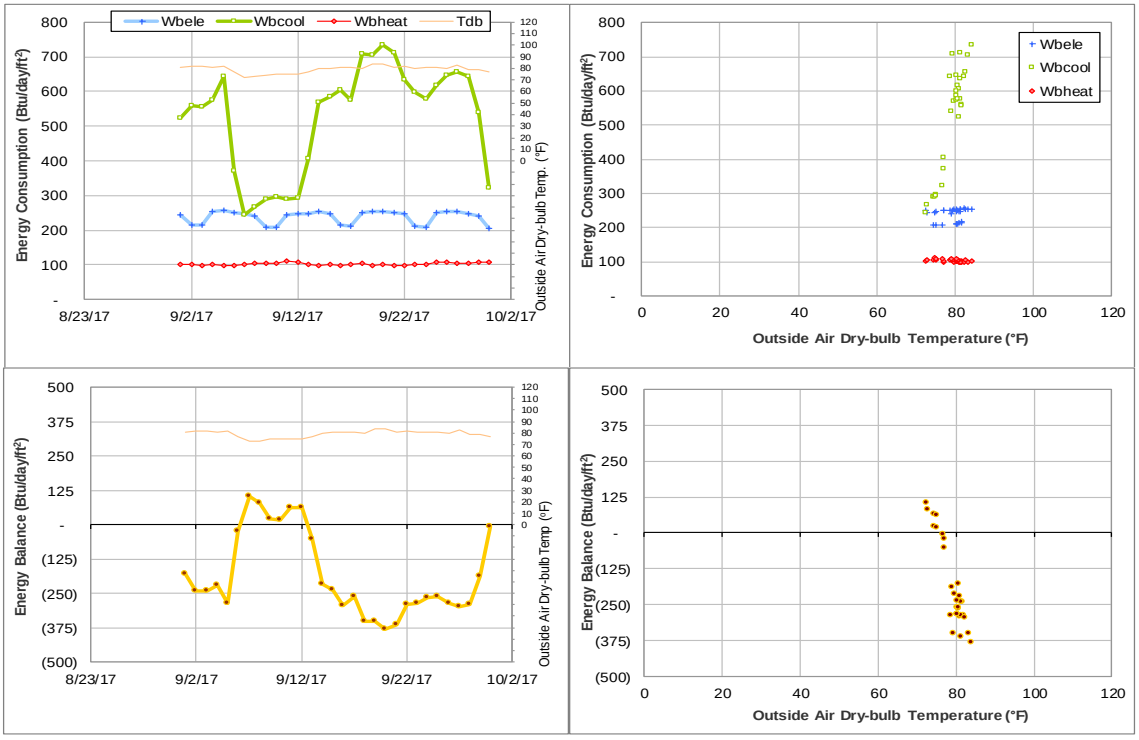


Figure IV-162 Biochemistry-Biophysics Building TAMU BLDG # 1507 Energy Balance Plot during September 2017

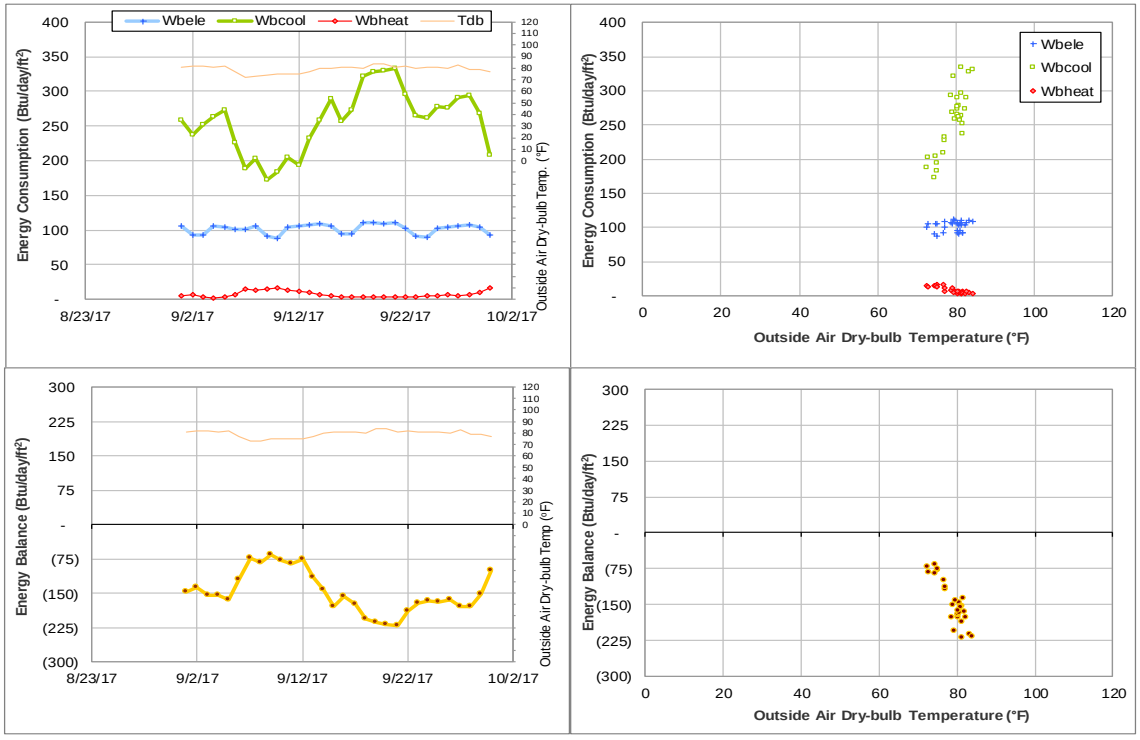


Figure IV-163 Price Hobgood Ag. Engineering Research Lab TAMU BLDG # 1508 Energy Balance Plot during September 2017

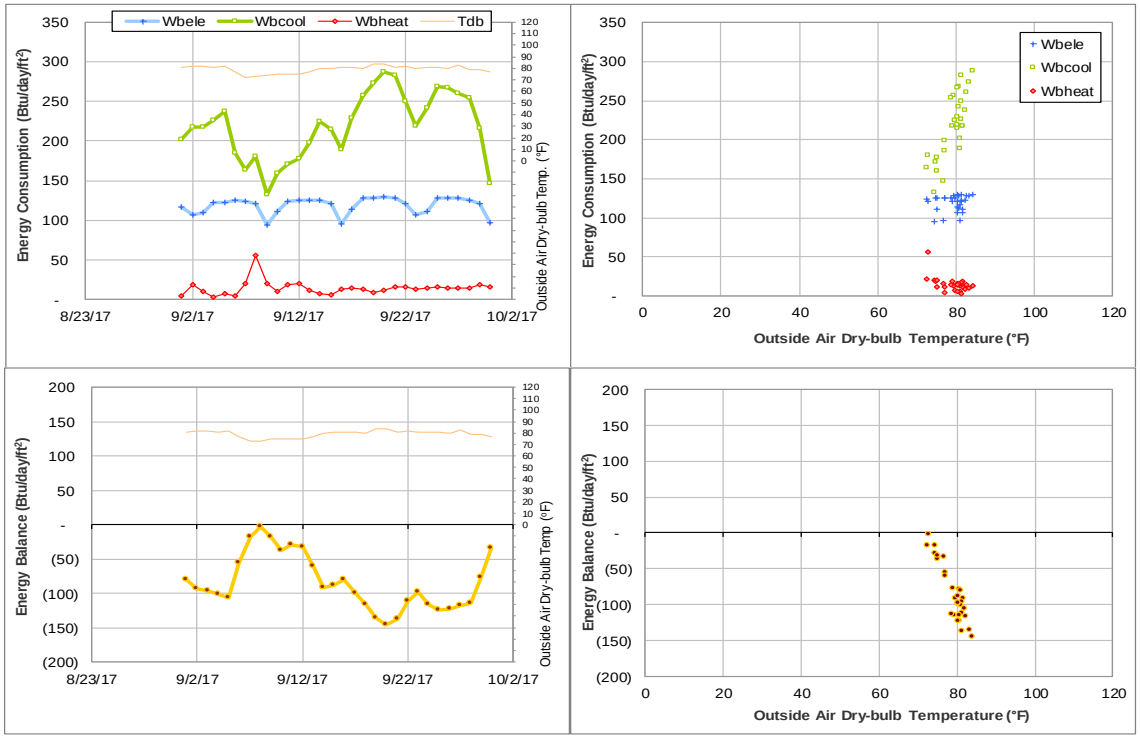


Figure IV-164 Medical Sciences Library TAMU BLDG # 1509 Energy Balance Plot during September 2017

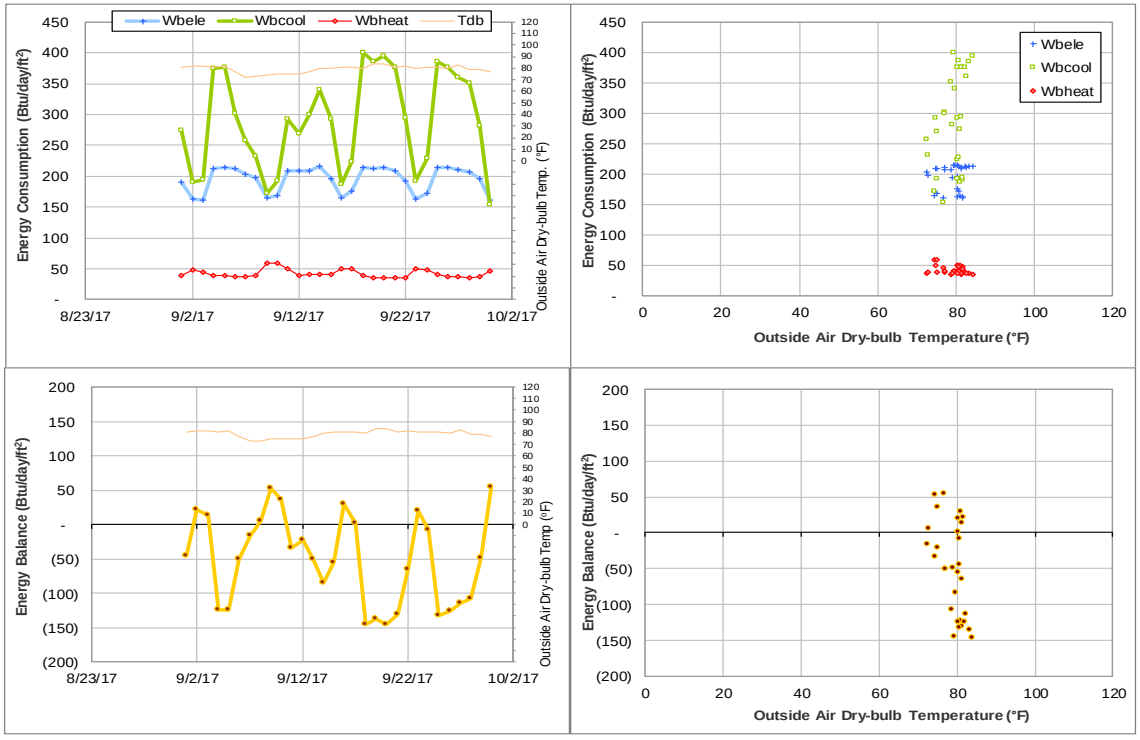


Figure IV-165 Wehner Building TAMU BLDG # 1510 Energy Balance Plot during September 2017

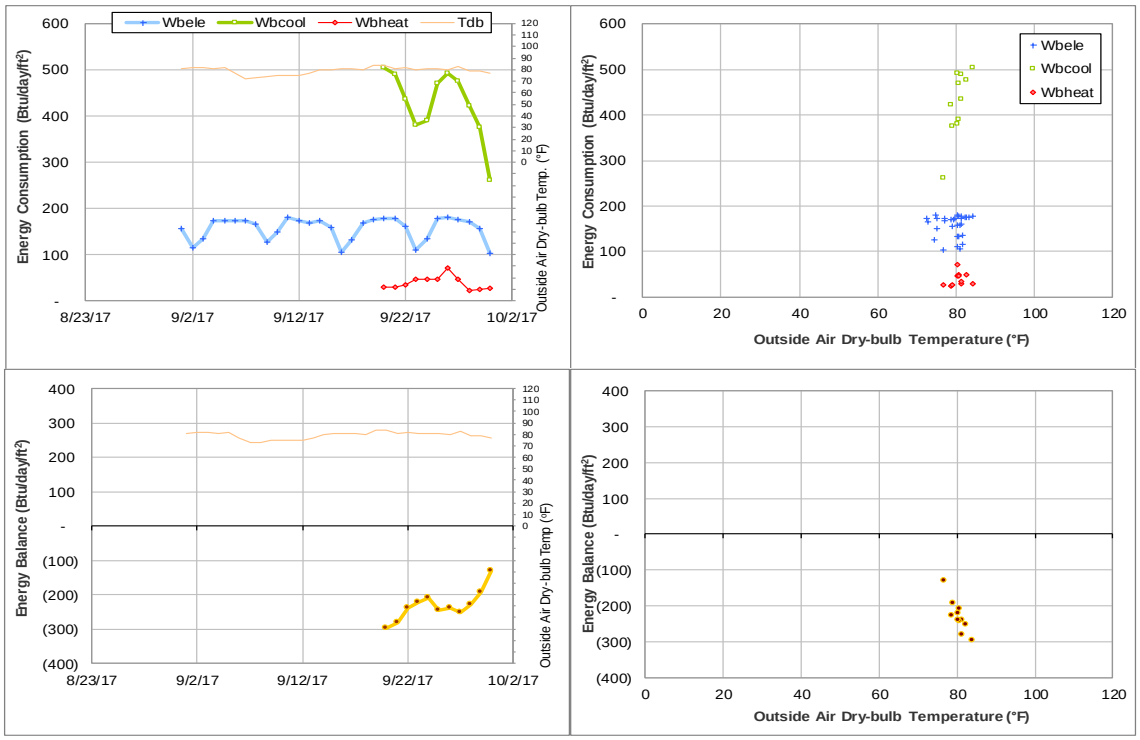


Figure IV-166 West Campus Library Facility TAMU BLDG # 1511 Energy Balance Plot during September 2017

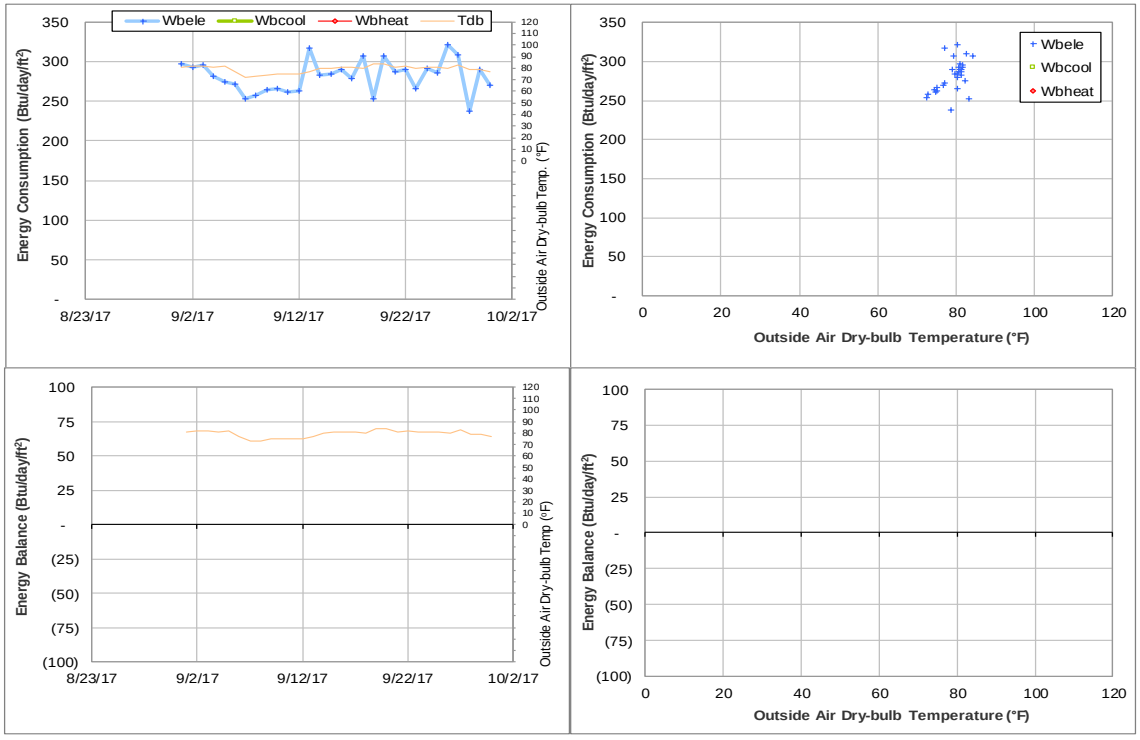


Figure IV-167 Southern Crop Improvement Greenhouse TAMU BLDG # 1512 Energy Balance Plot during September 2017

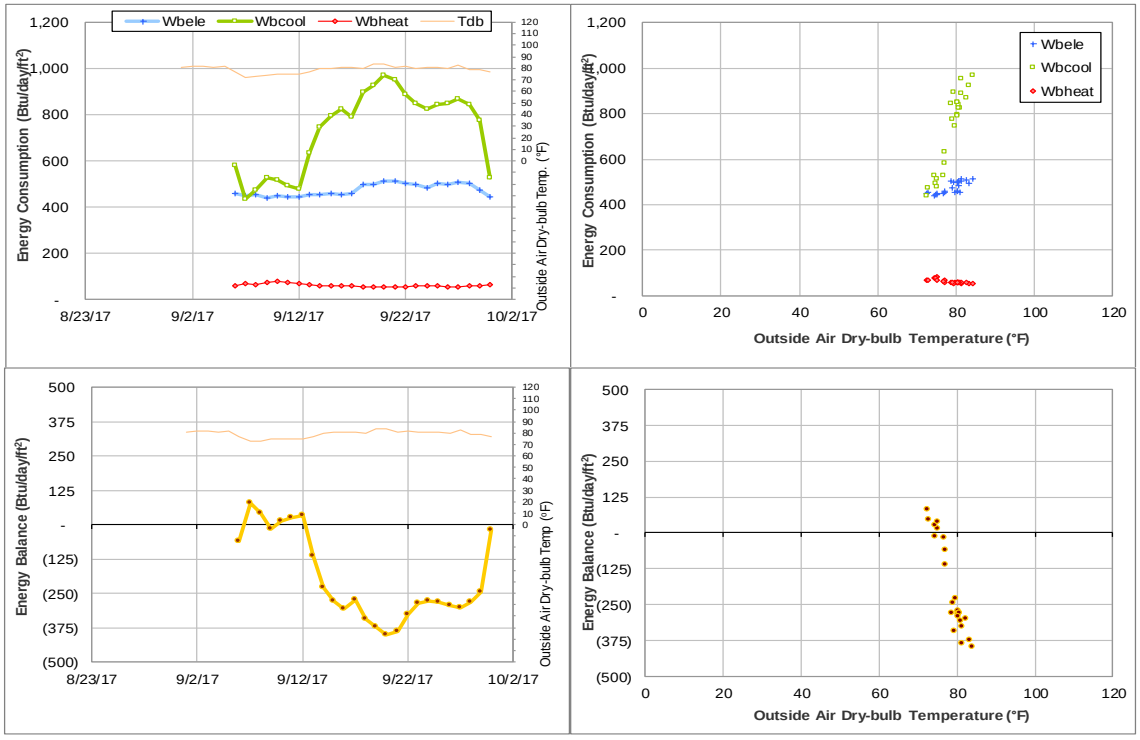


Figure IV-168 Borlaug Center for Southern Crop Improvement TAMU BLDG # 1513 Energy Balance Plot during September 2017

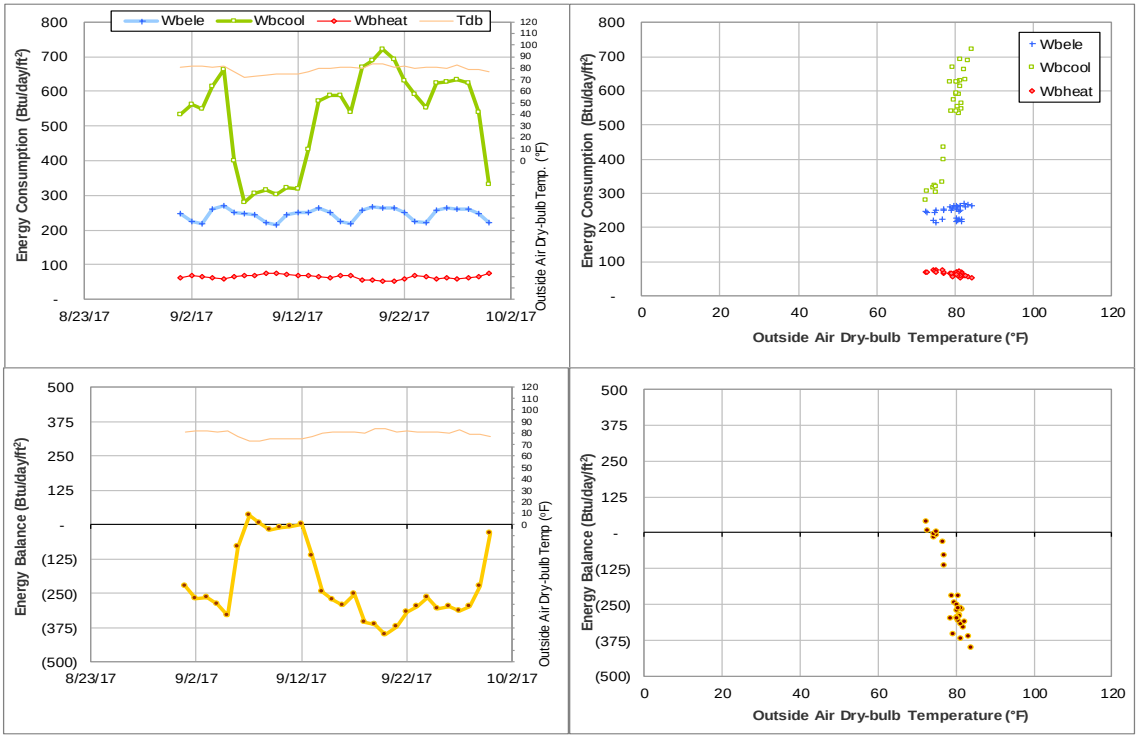


Figure IV-169 TX School of Rural Public Health TAMU BLDG # 1518 Energy Balance Plot during September 2017

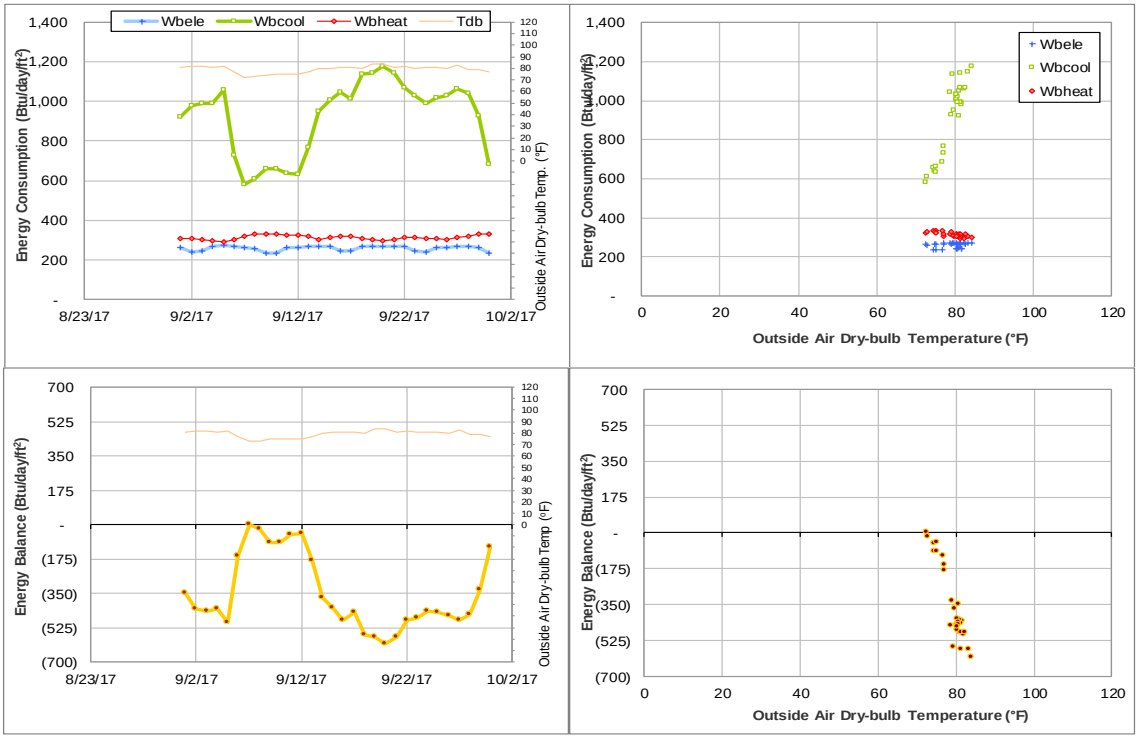


Figure IV-170 Nuclear Magnetic Resonance Facility TAMU BLDG # 1525 Energy Balance Plot during September 2017

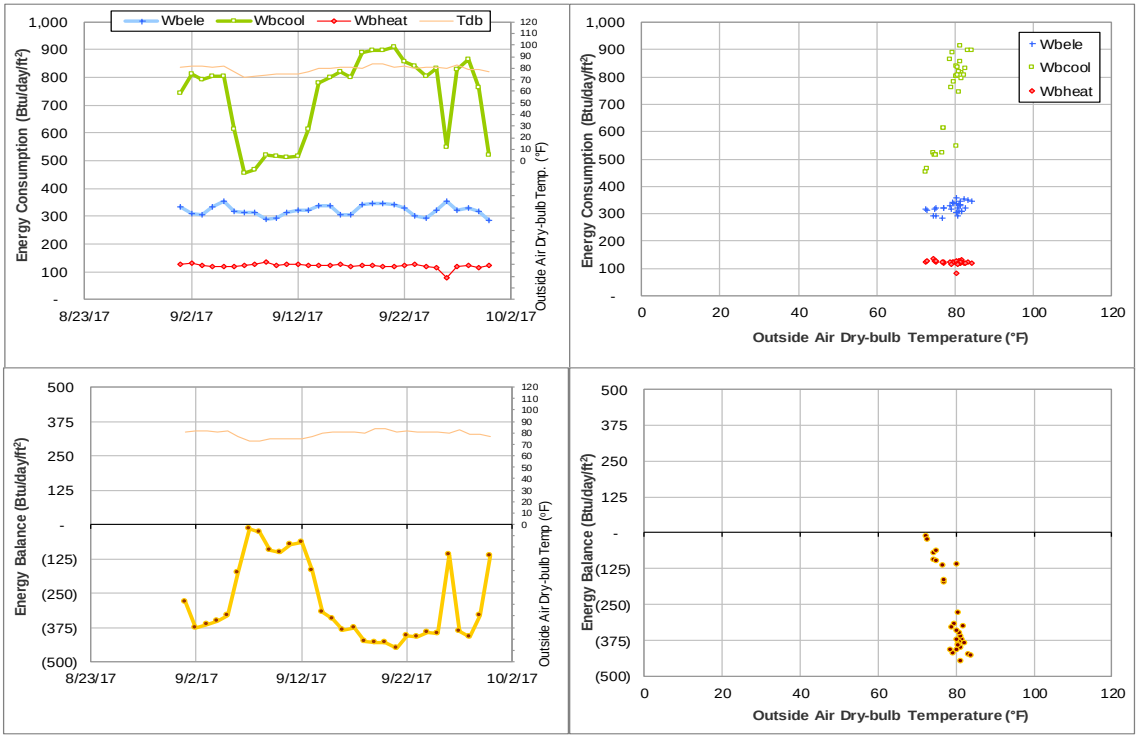


Figure IV-171 Interdisciplinary Life Sciences Building TAMU BLDG # 1530 Energy Balance Plot during September 2017

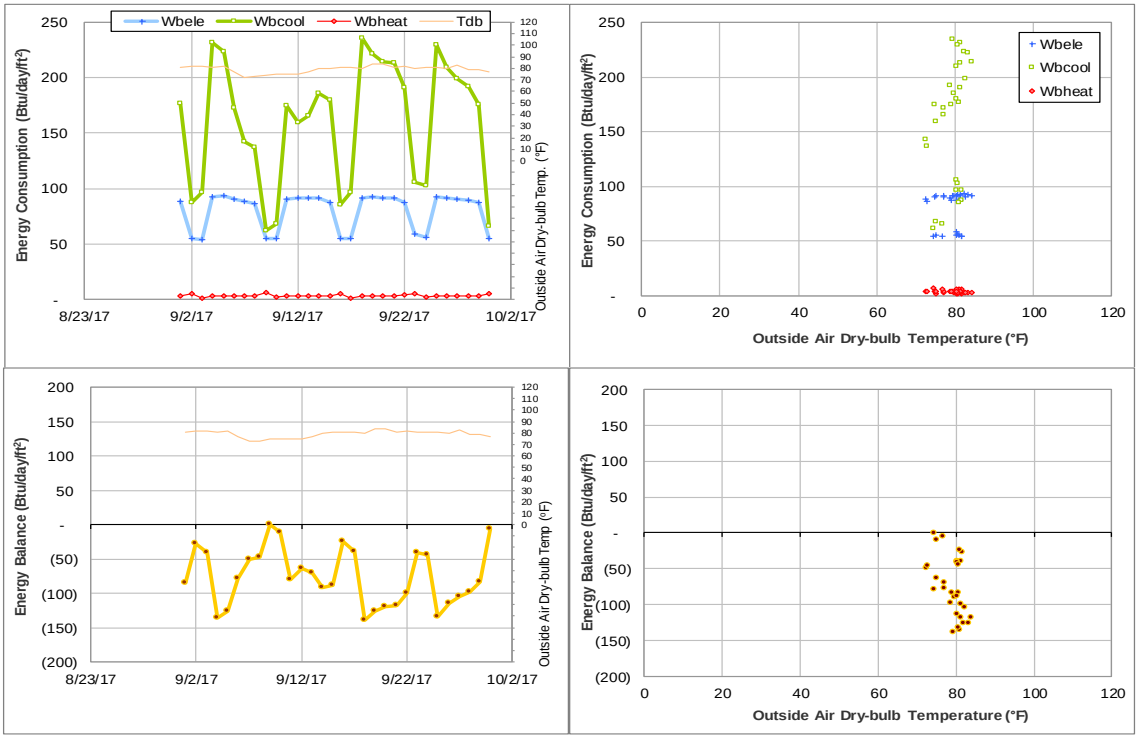


Figure IV-172 Agriculture and Life Sciences Building TAMU BLDG # 1535 Energy Balance Plot during September 2017

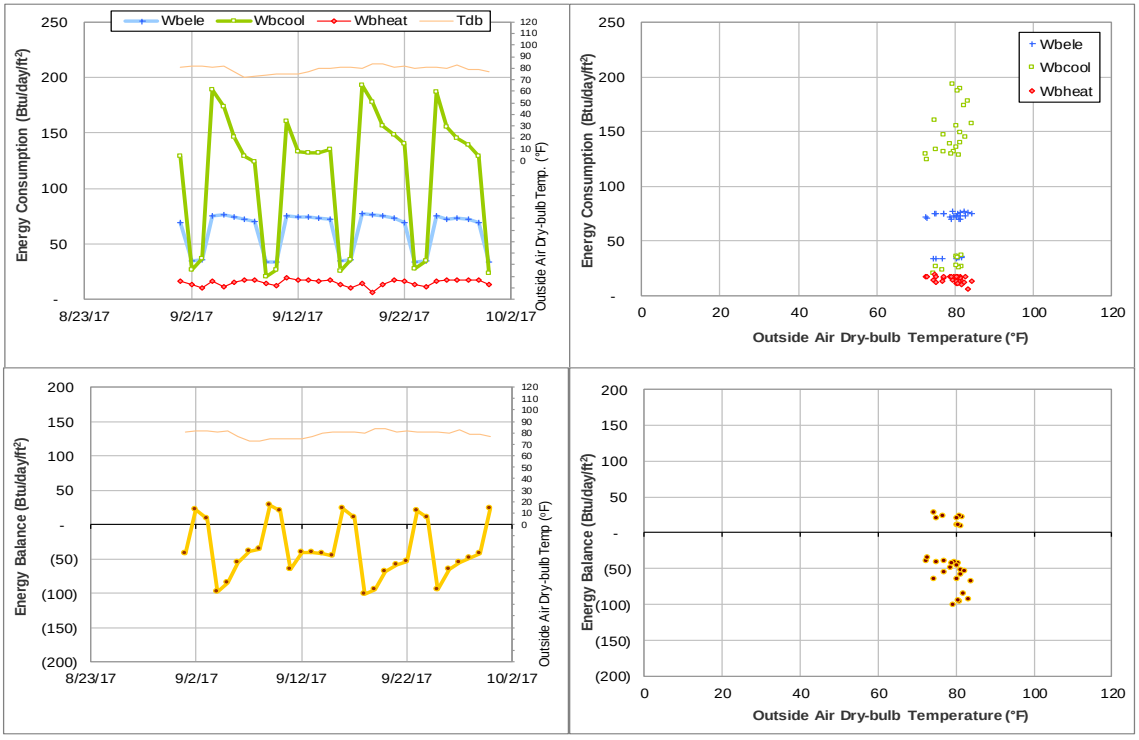


Figure IV-173 AgriLife Services Building TAMU BLDG # 1536 Energy Balance Plot during September 2017

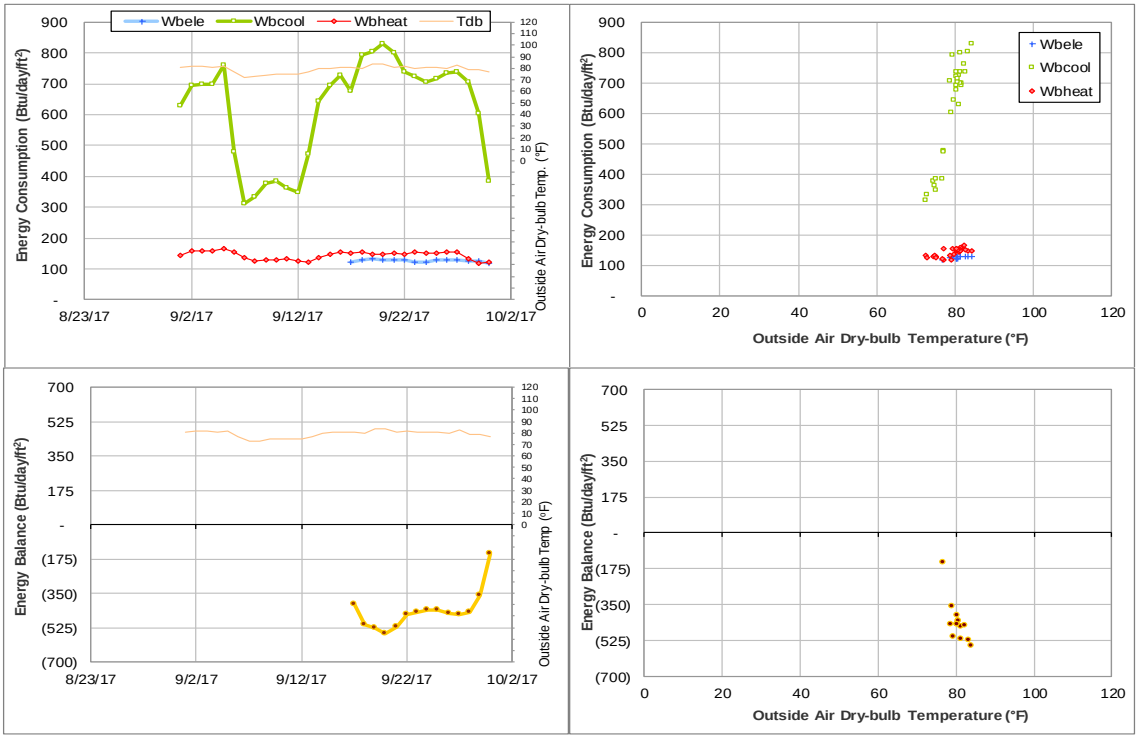


Figure IV-174 Wildlife Fisheries & Ecological Sciences Building TAMU BLDG # 1537 Energy Balance Plot during September 2017

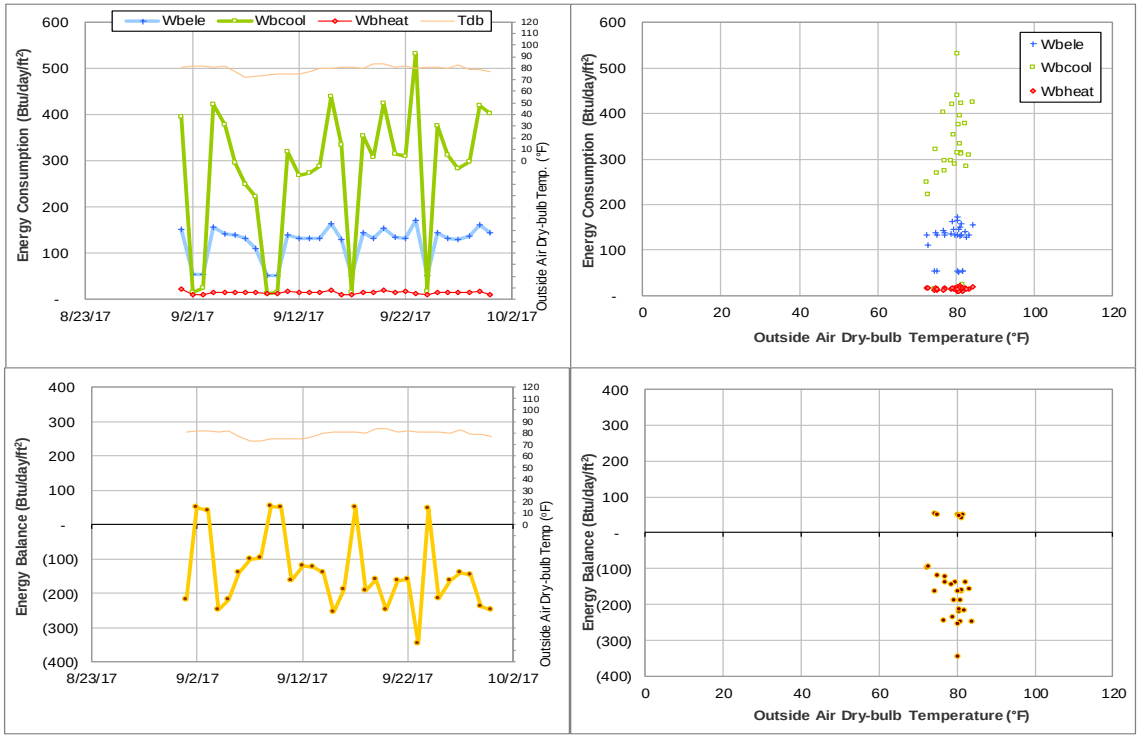


Figure IV-175 Agriculture Program Visitors Center TAMU BLDG # 1538 Energy Balance Plot during September 2017

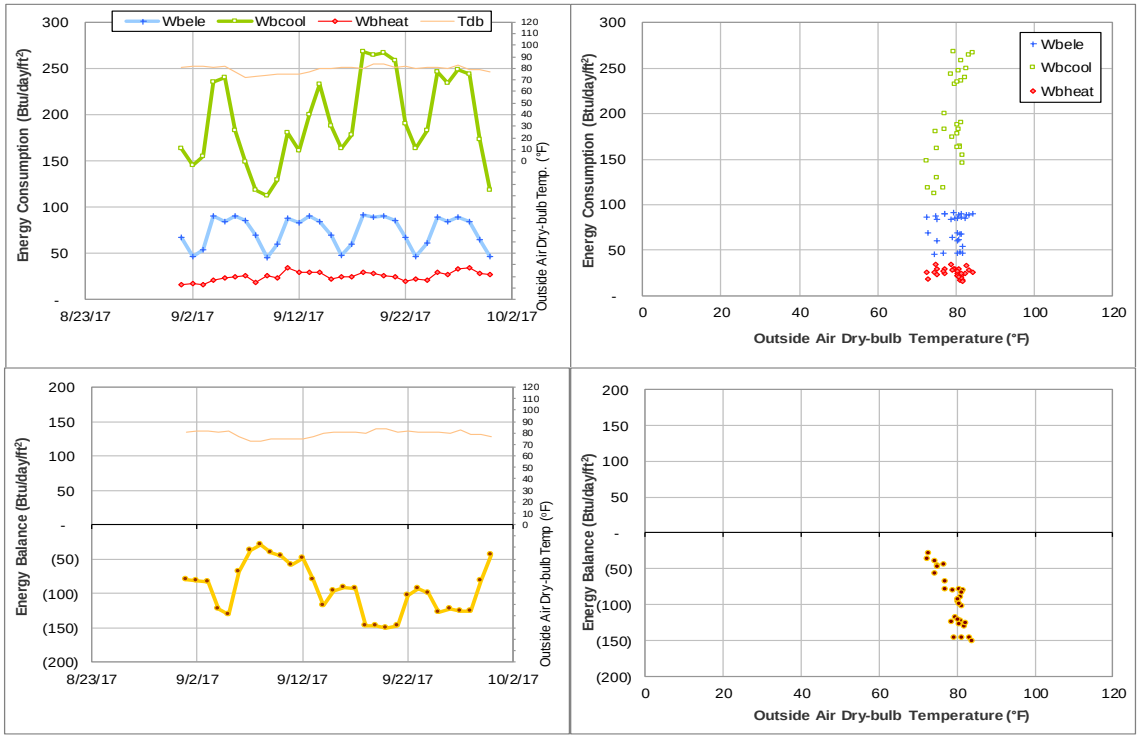


Figure IV-176 Physical Education Activity Program Building TAMU BLDG # 1540 Energy Balance Plot during September 2017

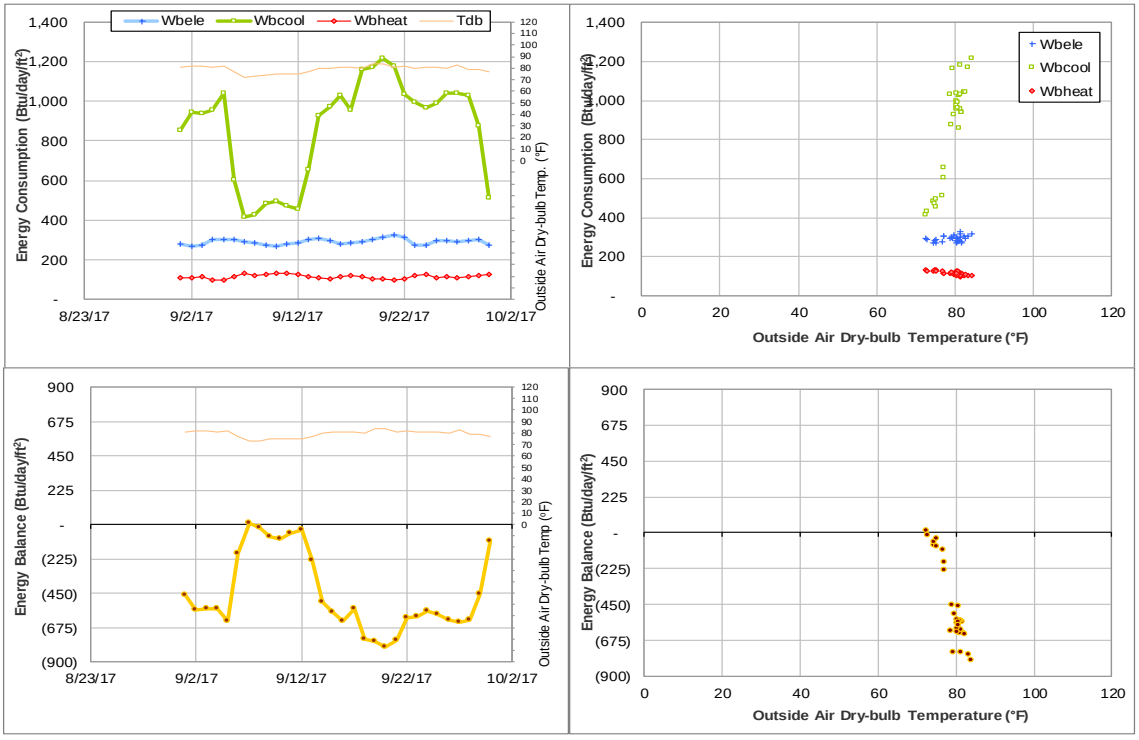


Figure IV-177 Human Clinical Research Building TAMU BLDG # 1542 Energy Balance Plot during September 2017

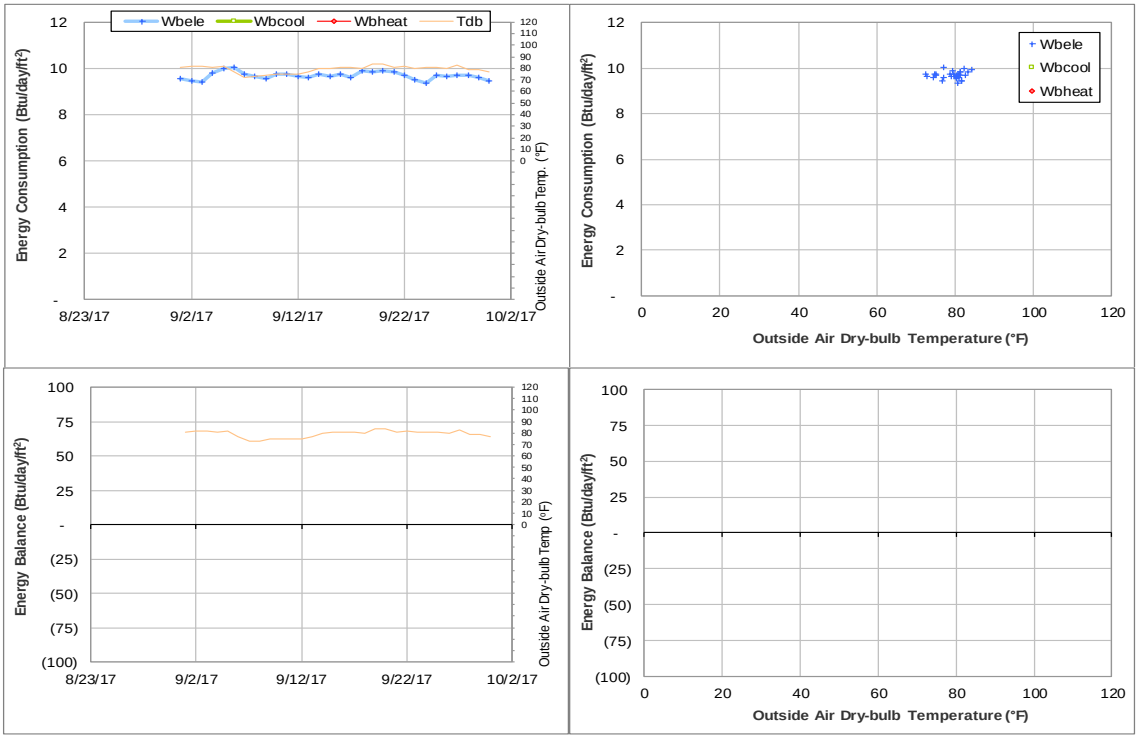


Figure IV-178 Cain Garage TAMU BLDG # 1544 Energy Balance Plot during September 2017

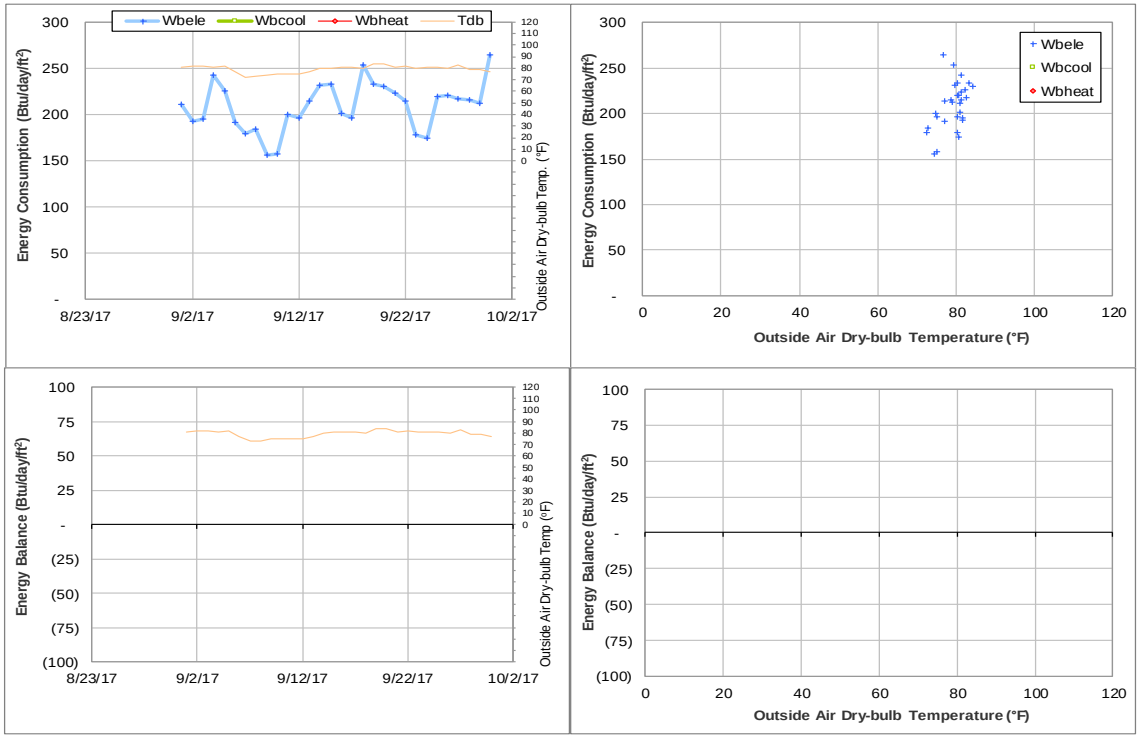


Figure IV-179 Olsen Field at Bluebell Park TAMU BLDG # 1550 Energy Balance Plot during September 2017

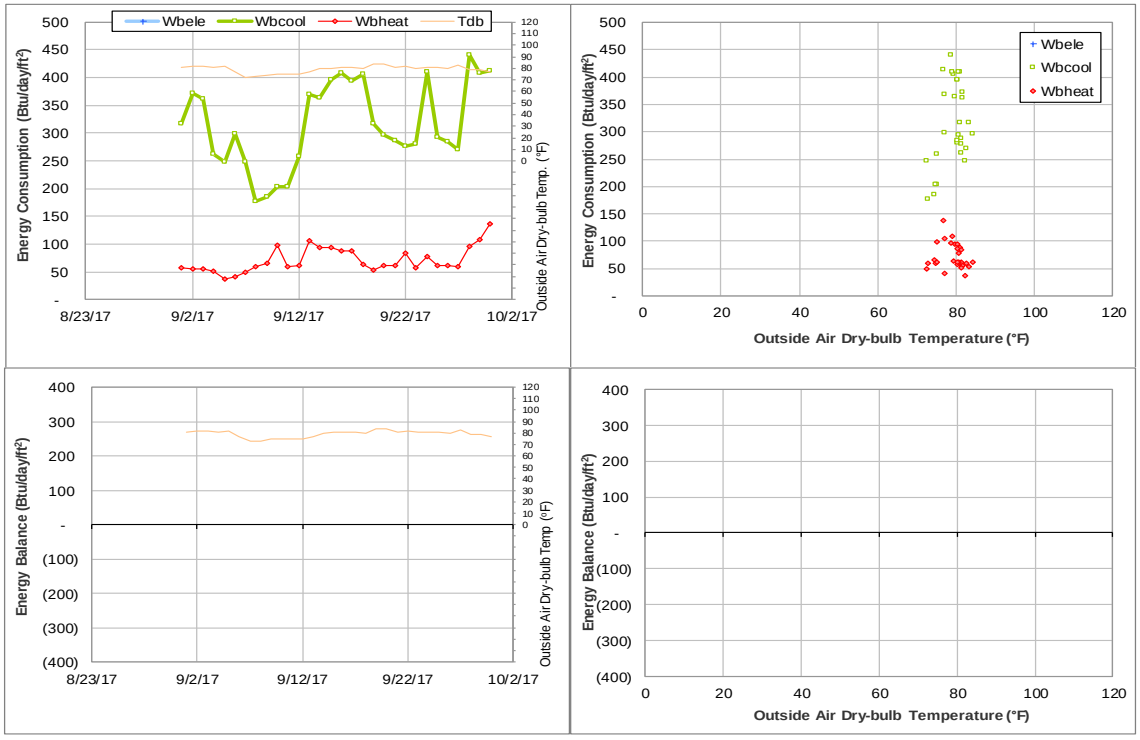


Figure IV-180 Reed Arena TAMU BLDG # 1554 Energy Balance Plot during September 2017

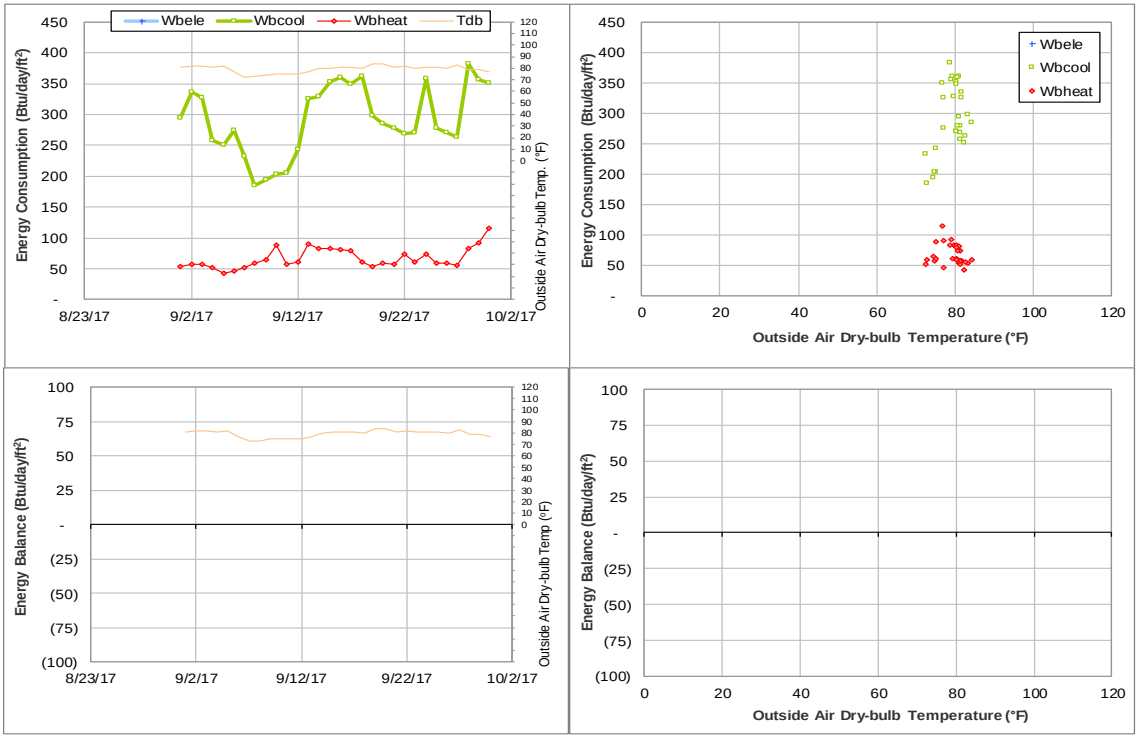


Figure IV-181 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1554 Energy Balance Plot during September 2017

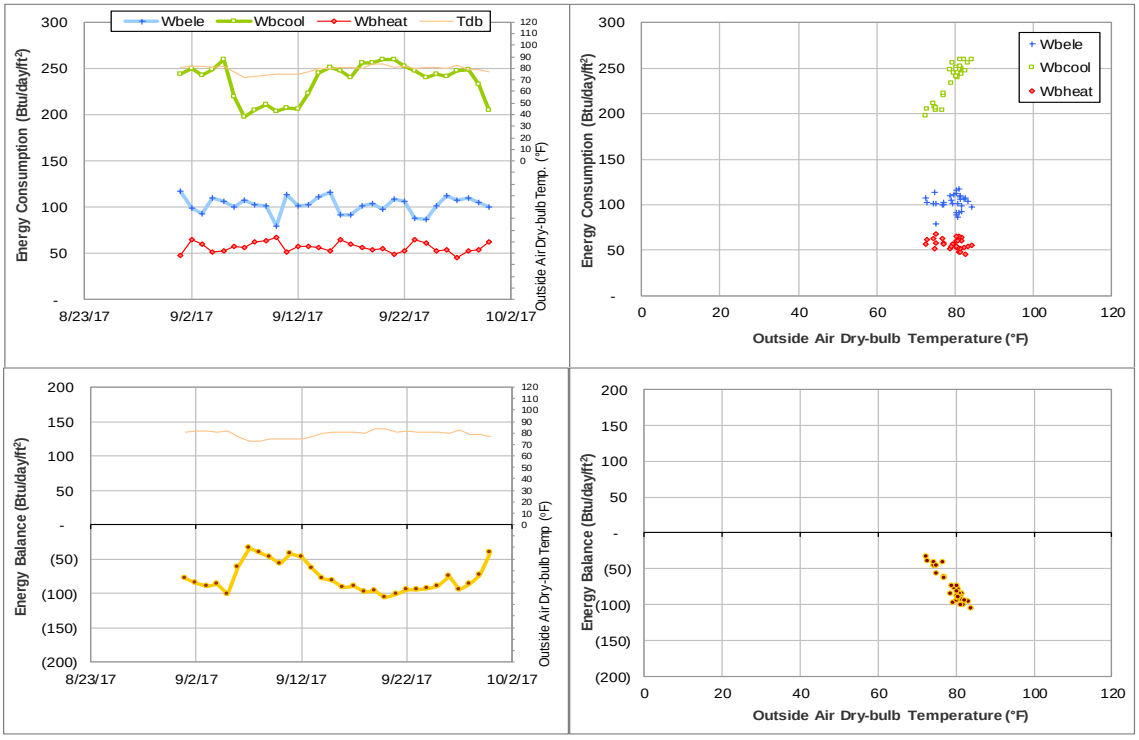


Figure IV-182 Cox-McFerrin Center for Aggie Basketball TAMU BLDG # 1558 Energy Balance Plot during September 2017

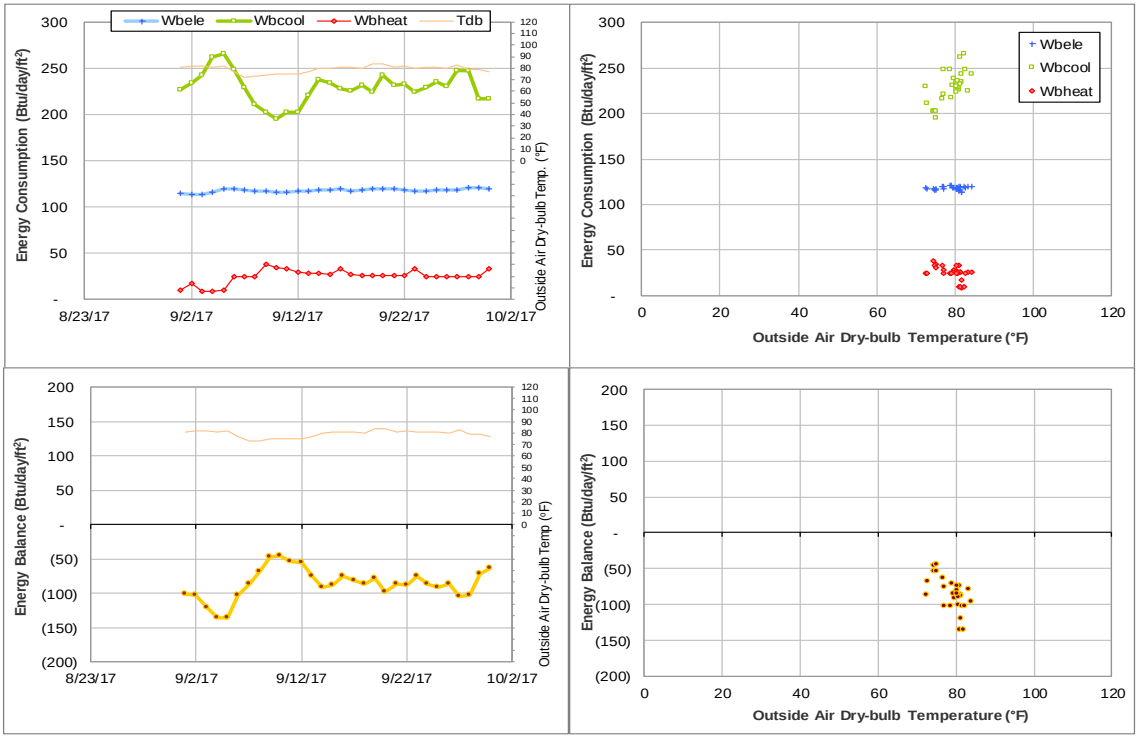


Figure IV-183 West Campus Parking Garage TAMU BLDG # 1559 Energy Balance Plot during September 2017

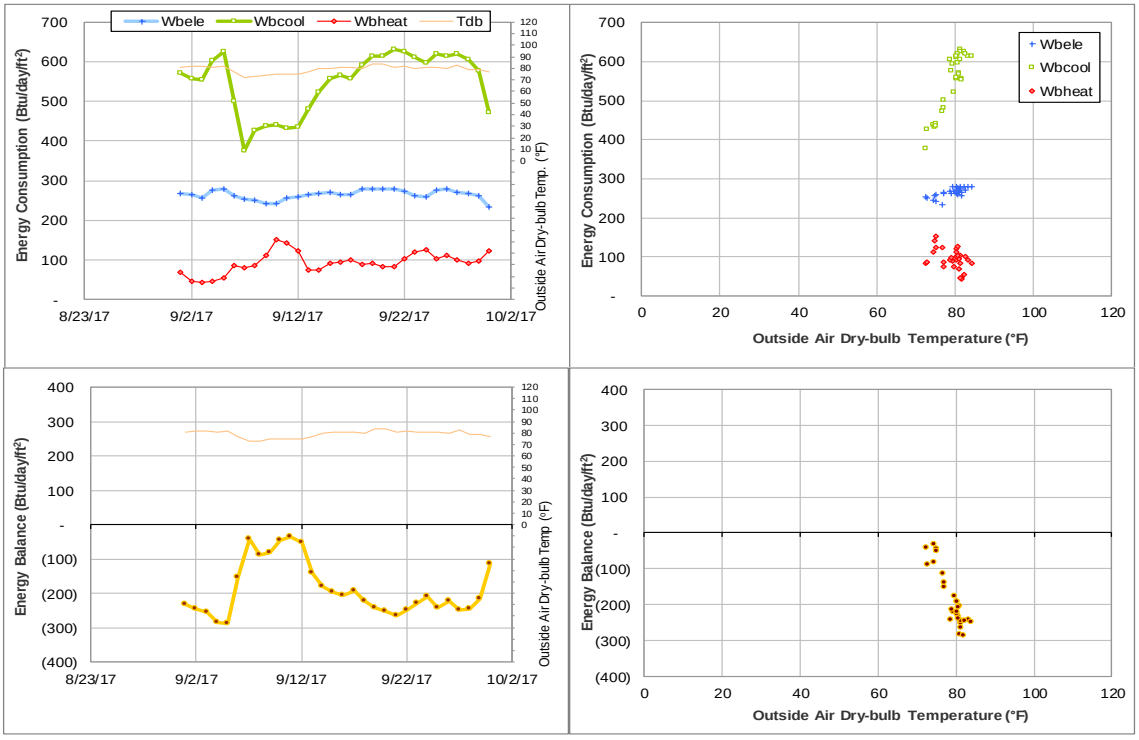


Figure IV-184 Student Recreation Center TAMU BLDG # 1560 Energy Balance Plot during September 2017

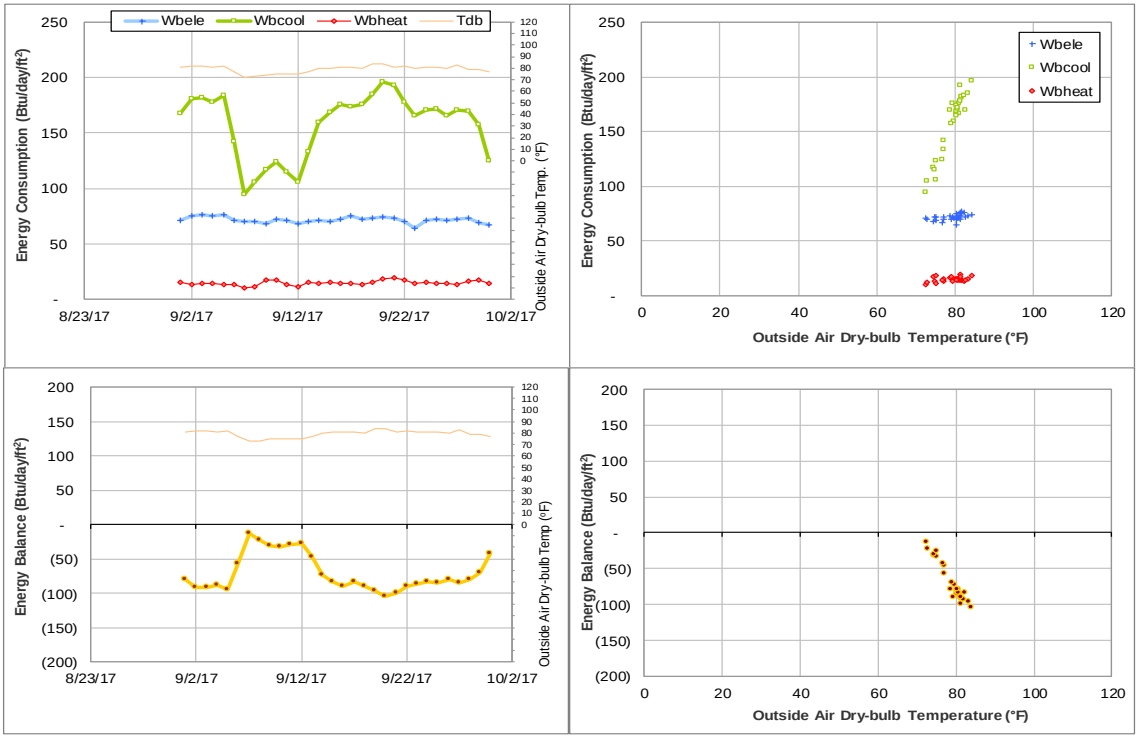


Figure IV-185 White Creek Apartment 1 and White Creek Apts Activity Center TAMU BLDG # 1589 Energy Balance Plot during September 2017

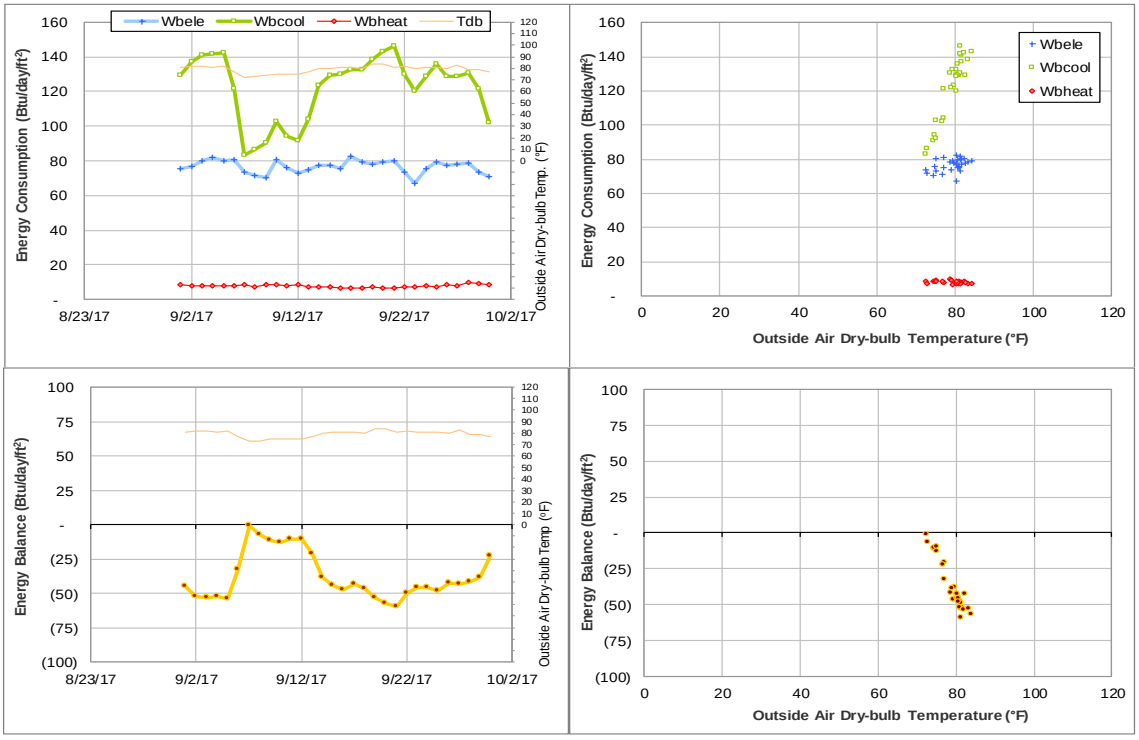


Figure IV-186 White Creek Apartment 2 TAMU BLDG # 1591 Energy Balance Plot during September 2017

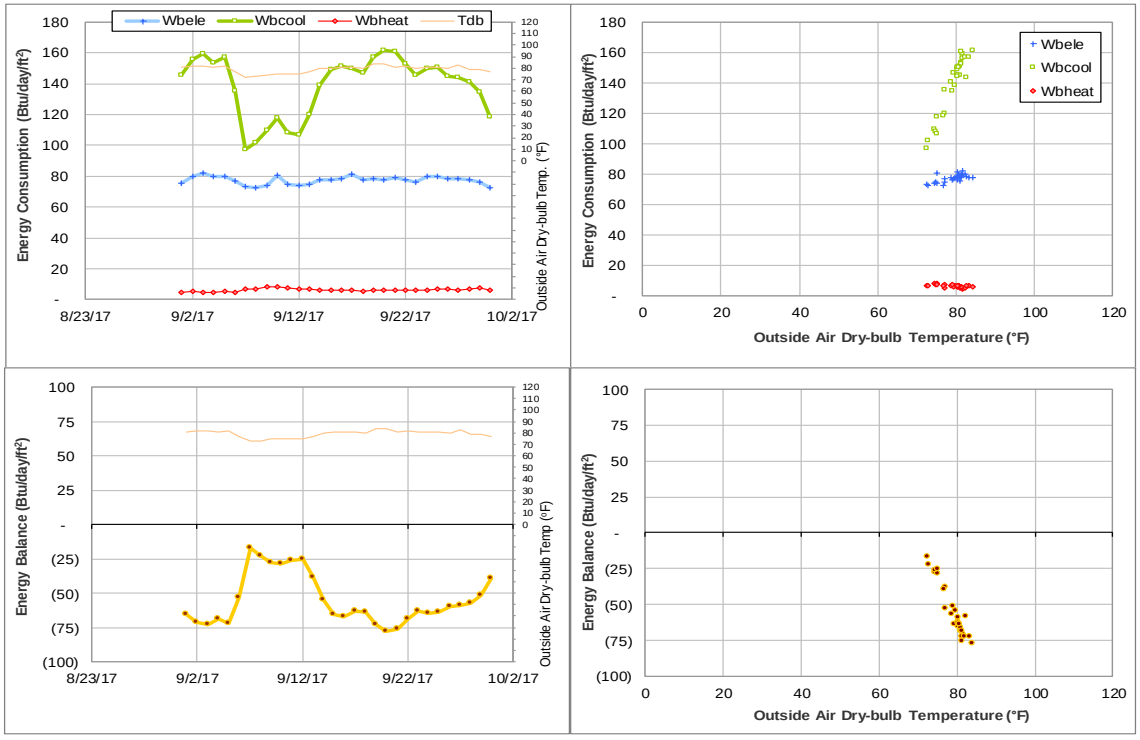


Figure IV-187 White Creek Apartment 3 TAMU BLDG # 1592 Energy Balance Plot during September 2017

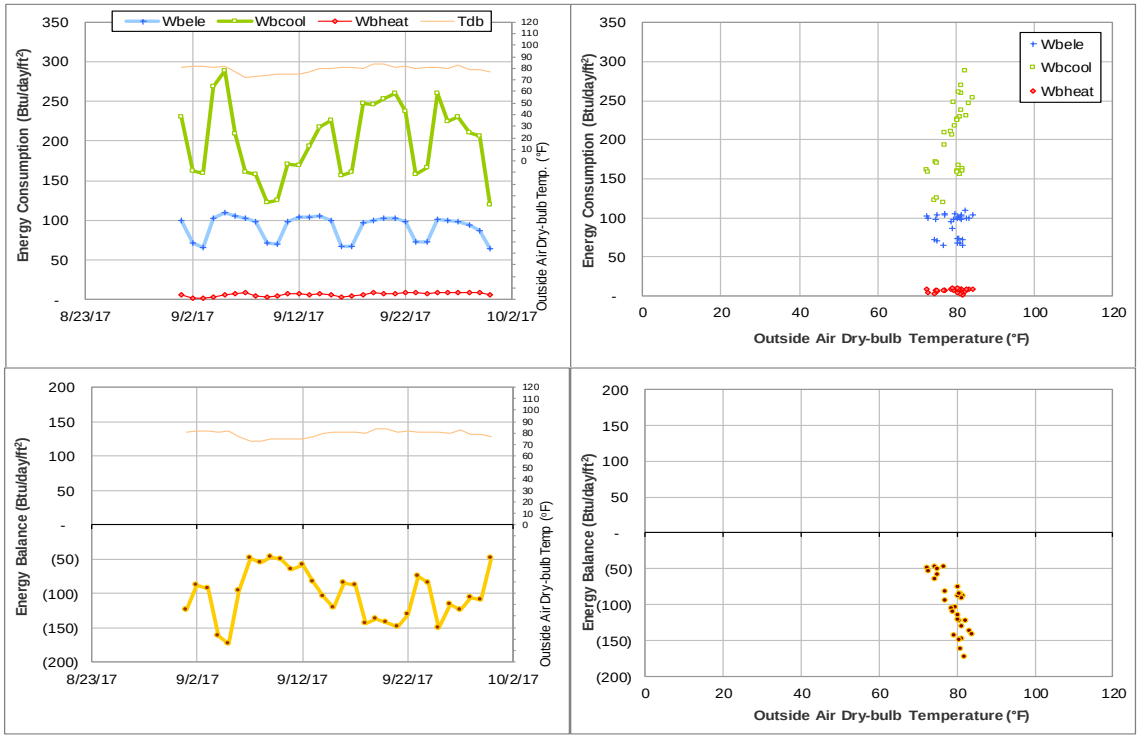


Figure IV-188 Gilchrist TTI Building TAMU BLDG # 1600 Energy Balance Plot during September 2017

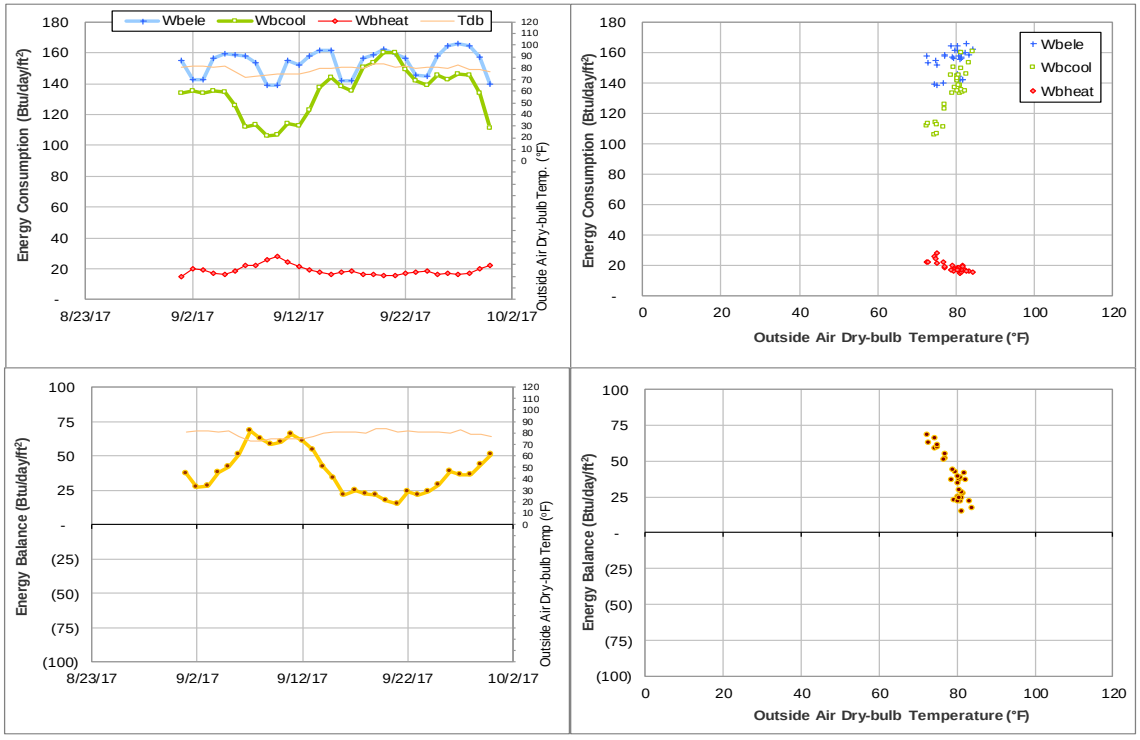


Figure IV-189 International Ocean Discovery Building TAMU BLDG # 1601 Energy Balance Plot during September 2017

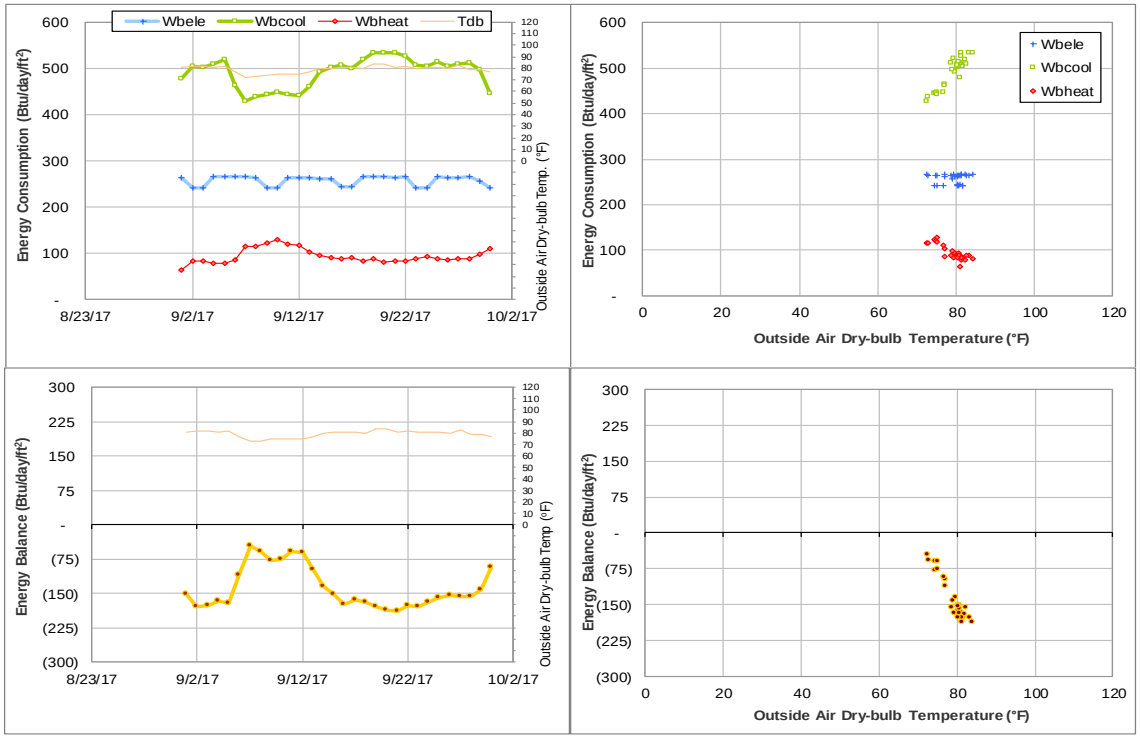


Figure IV-190 Offshore Technology Research Center TAMU BLDG # 1604 Energy Balance Plot during September 2017

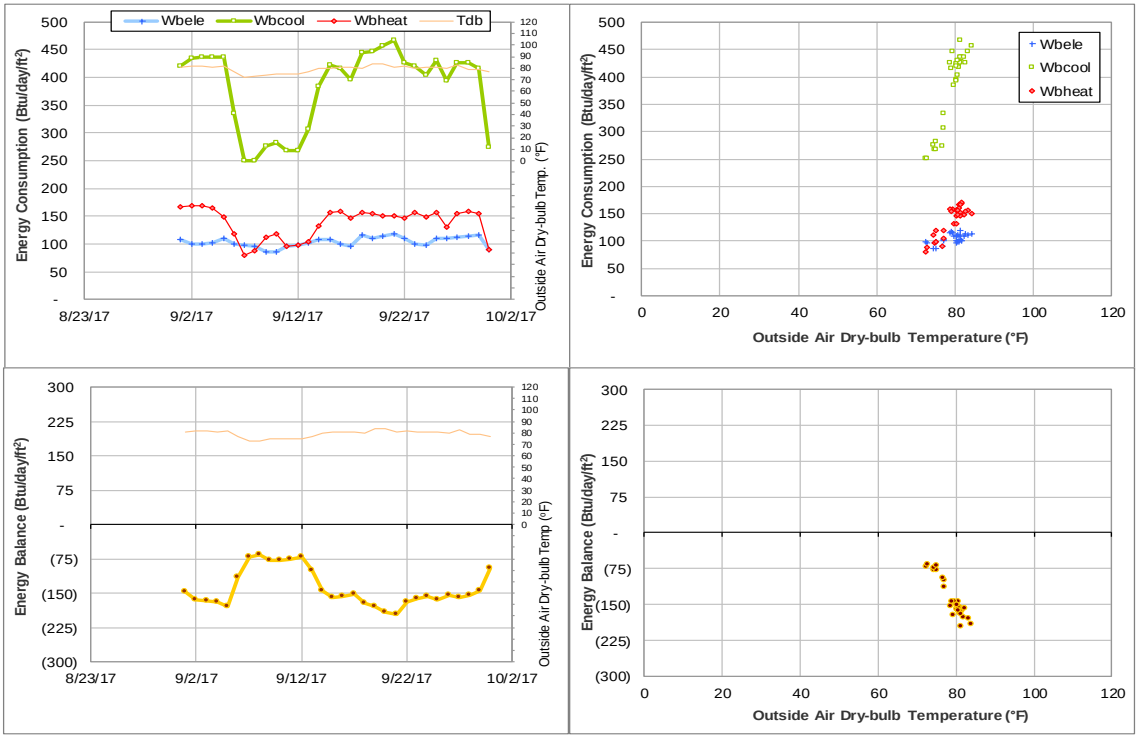


Figure IV-191 George Bush Presidential Library & Museum TAMU BLDG # 1606 Energy Balance Plot during September 2017

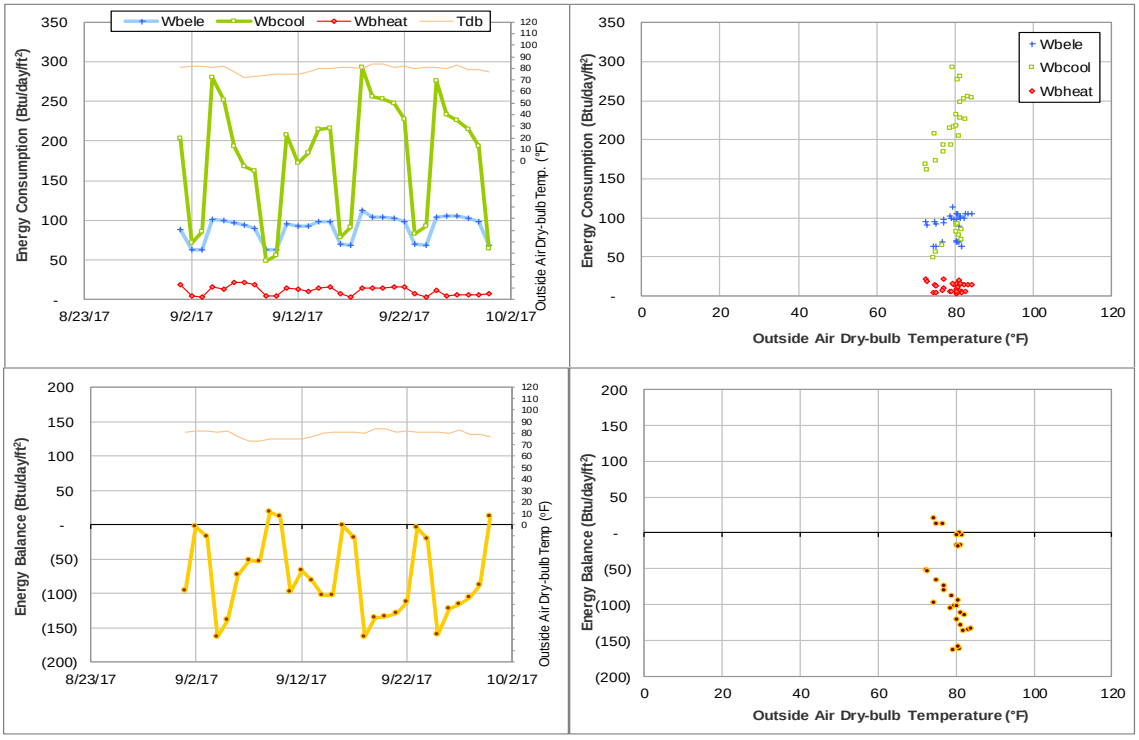


Figure IV-192 Allen Building TAMU BLDG # 1607 Energy Balance Plot during September 2017

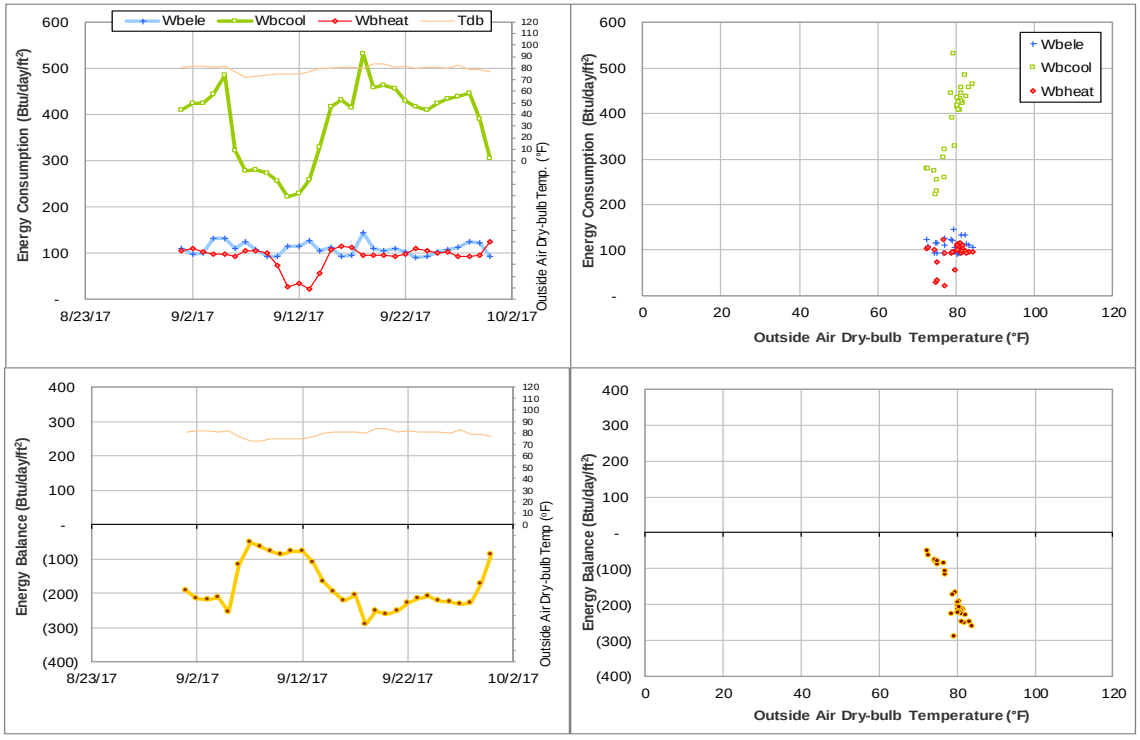


Figure IV-193 Annenberg Presidential Conference Center TAMU BLDG # 1608 Energy Balance Plot during September 2017

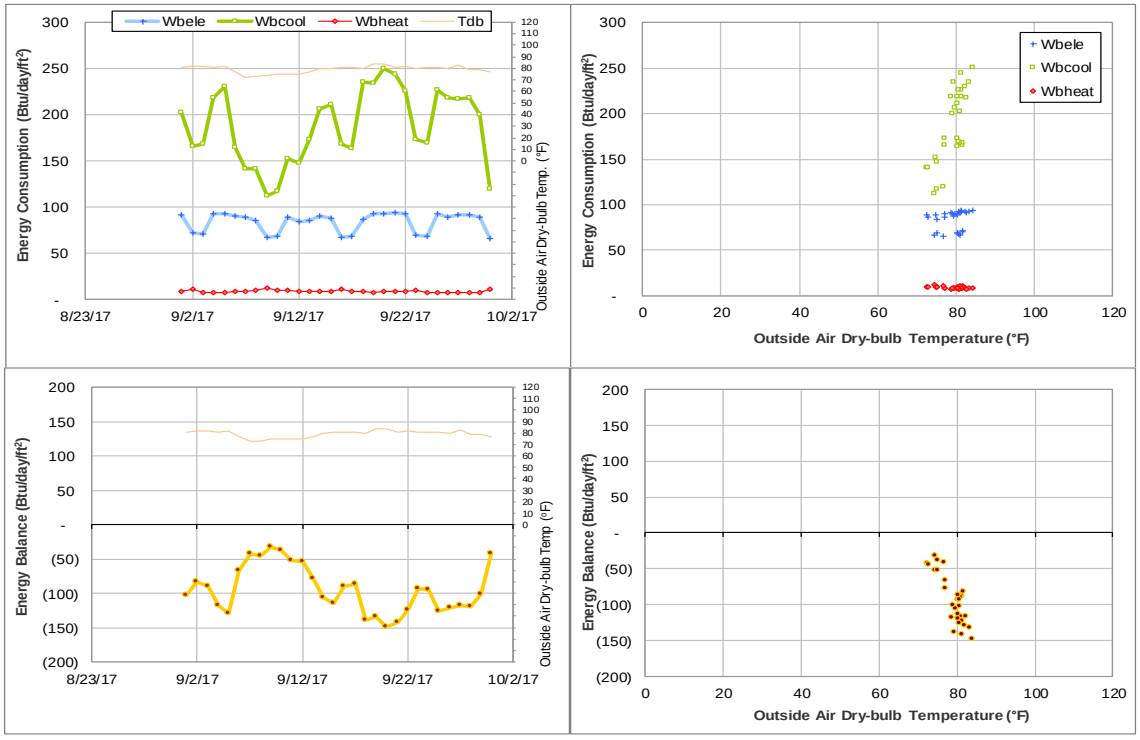


Figure IV-194 TTI Headquarters TAMU BLDG # 1609 Energy Balance Plot during September 2017

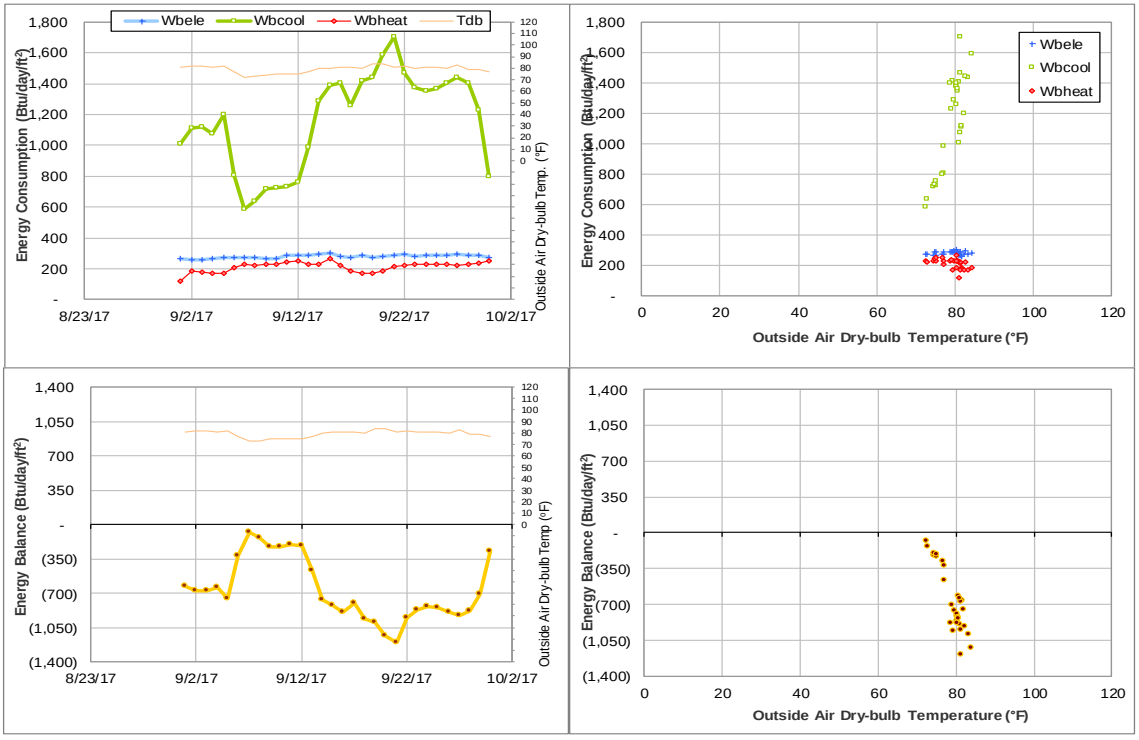


Figure IV-195 Engineering Research Building TAMU BLDG # 1611 Energy Balance Plot during September 2017

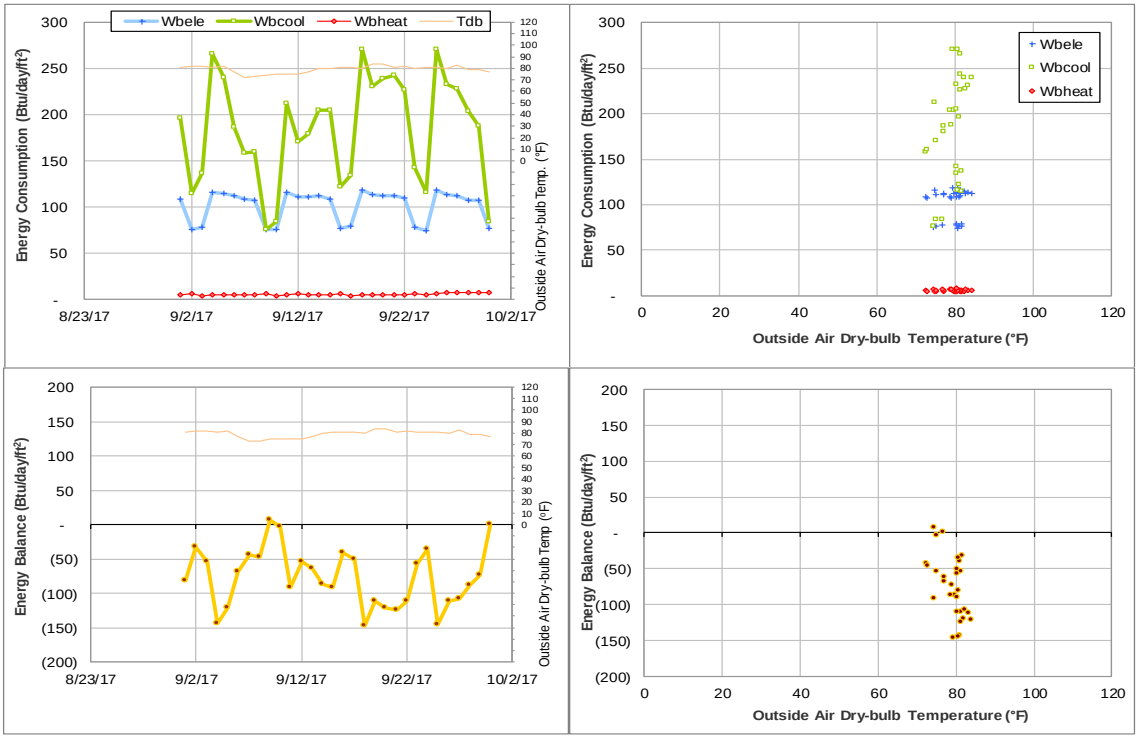


Figure IV-196 General Services Complex TAMU BLDG # 1800 Energy Balance Plot during September 2017

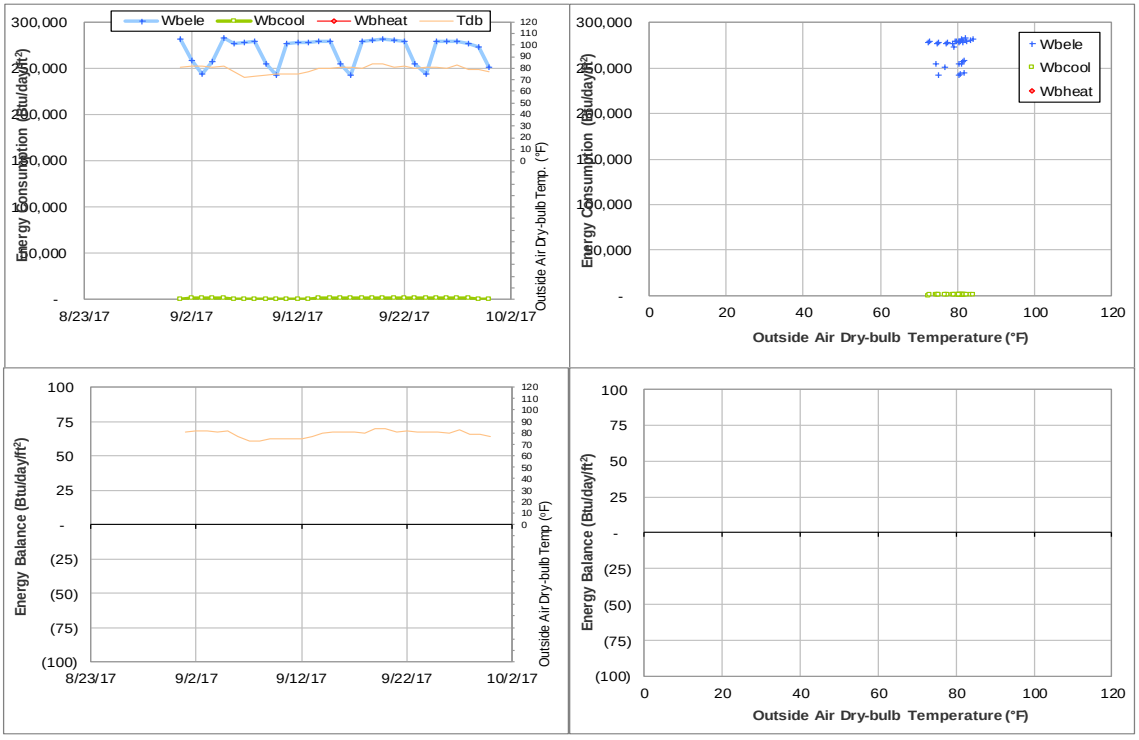


Figure IV-197 New TVMDL TAMU BLDG # 1809 Energy Balance Plot during September 2017

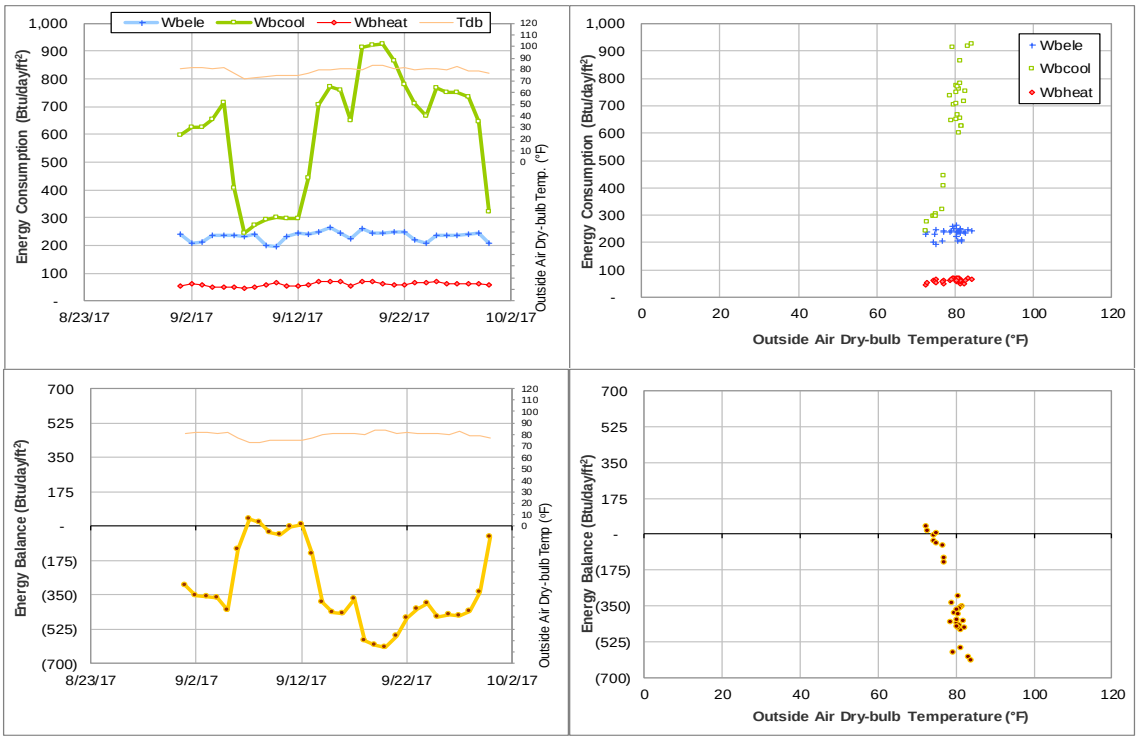


Figure IV-198 Office of the State Chemist Building TAMU BLDG # 1810 Energy Balance Plot during September 2017

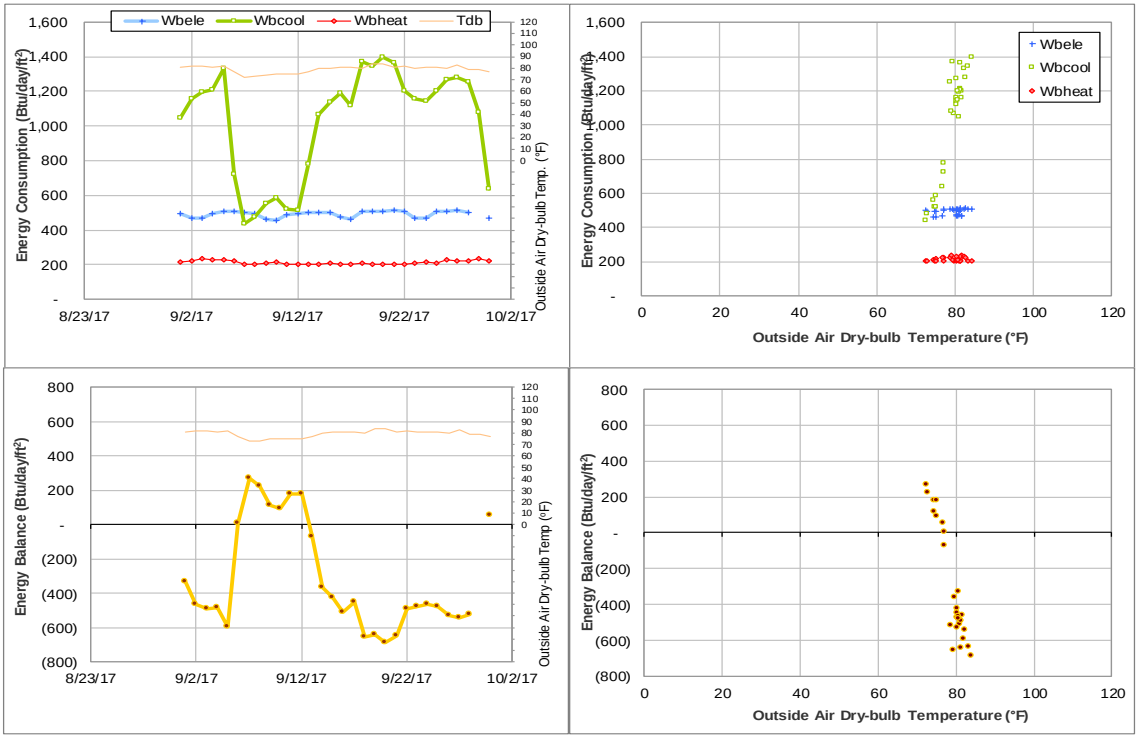


Figure IV-199 Vet Med Research Bldg Addition TAMU BLDG # 1811 Energy Balance Plot during September 2017

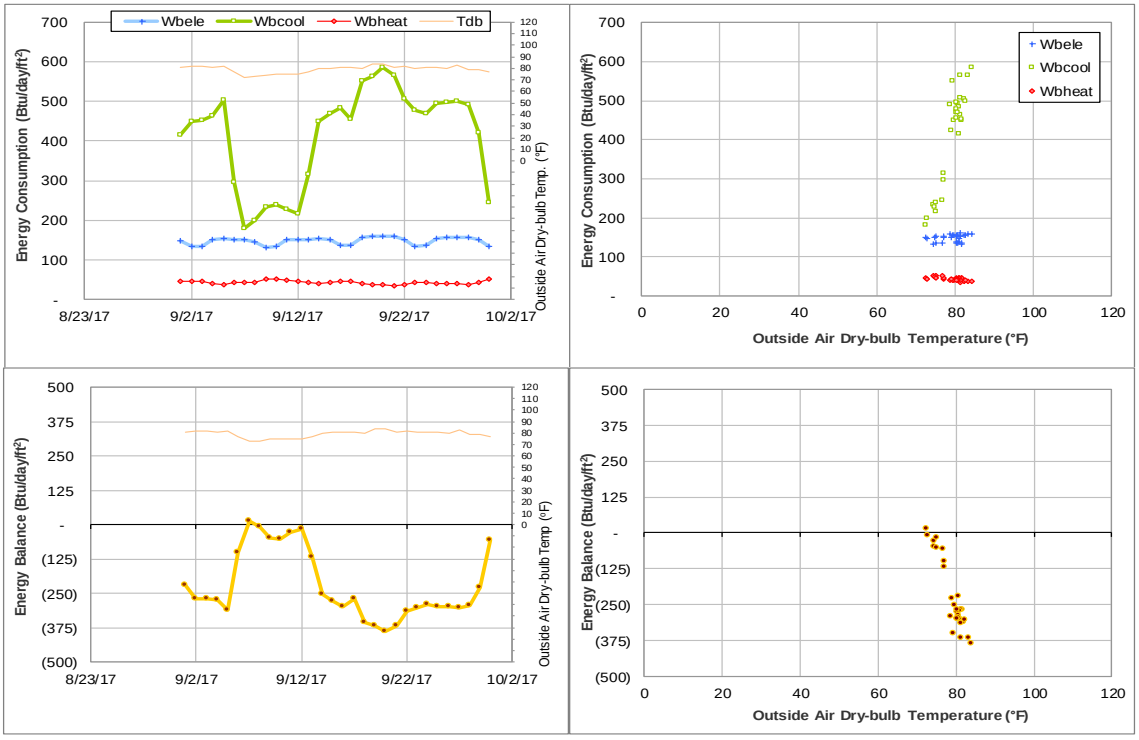


Figure IV-200 Veterinary Medicine Building 1, 2, and 3 TAMU BLDG # 1812 Energy Balance Plot during September 2017

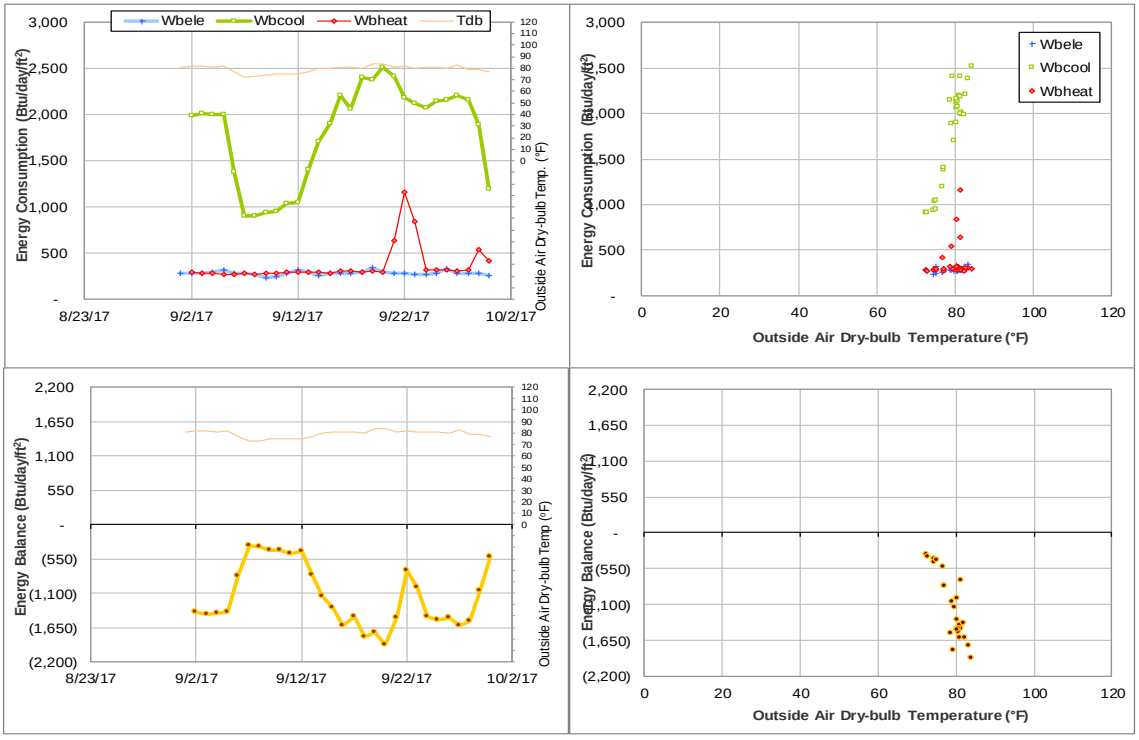


Figure IV-201 Texas Institute for Genomic Medicine TAMU BLDG # 1900 Energy Balance Plot during September 2017

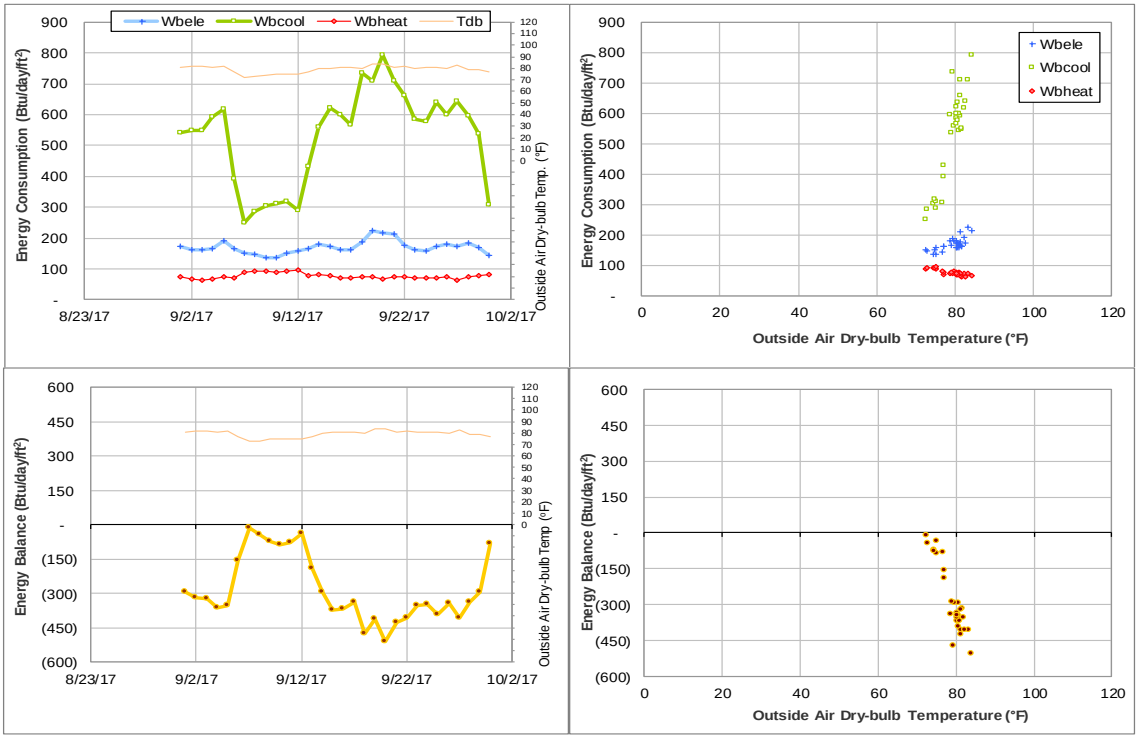


Figure IV-202 Texas A&M Institute for Preclinical Studies A TAMU BLDG # 1904 Energy Balance Plot during September 2017

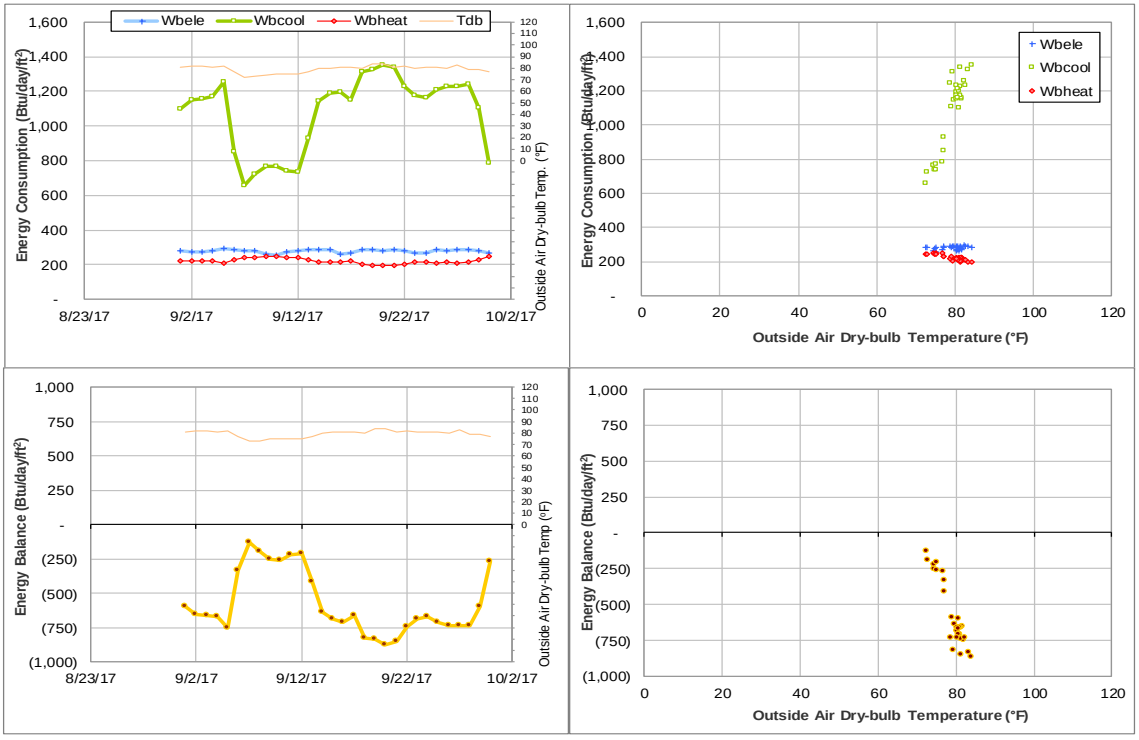


Figure IV-203 National Center for Therapeutics Manufacturing TAMU BLDG # 1910 Energy Balance Plot during September 2017

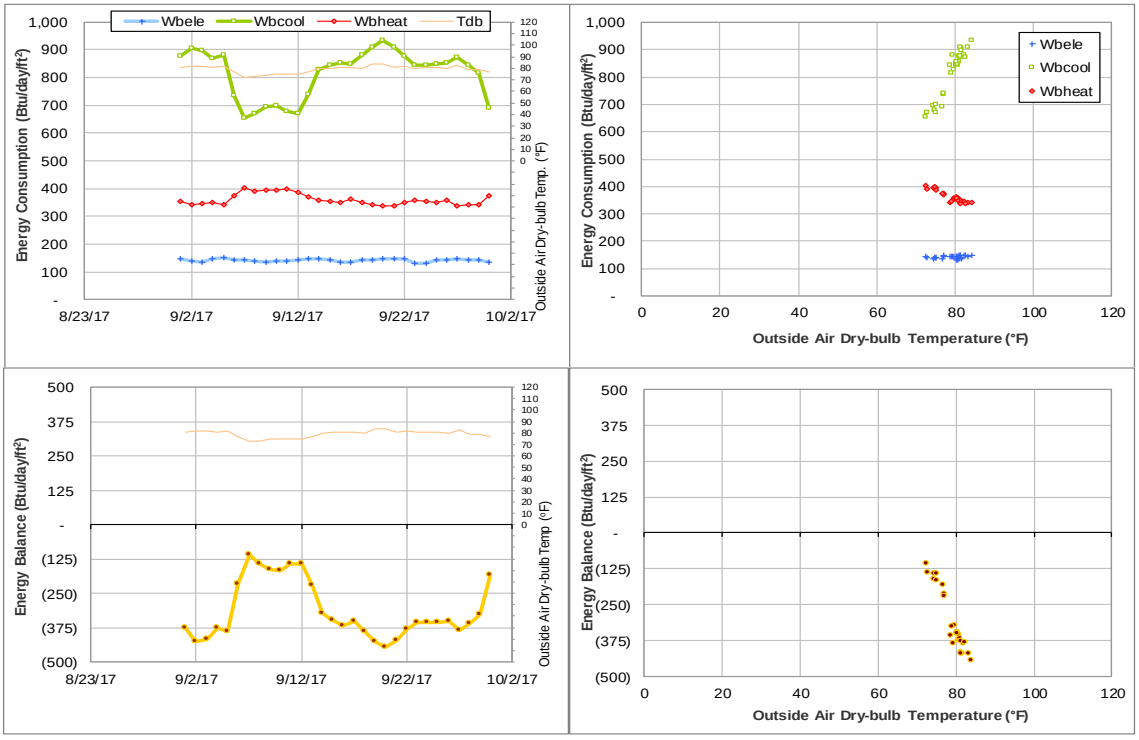


Figure IV-204 Multi-Species Research Building TAMU BLDG # 1911 Energy Balance Plot during September 2017

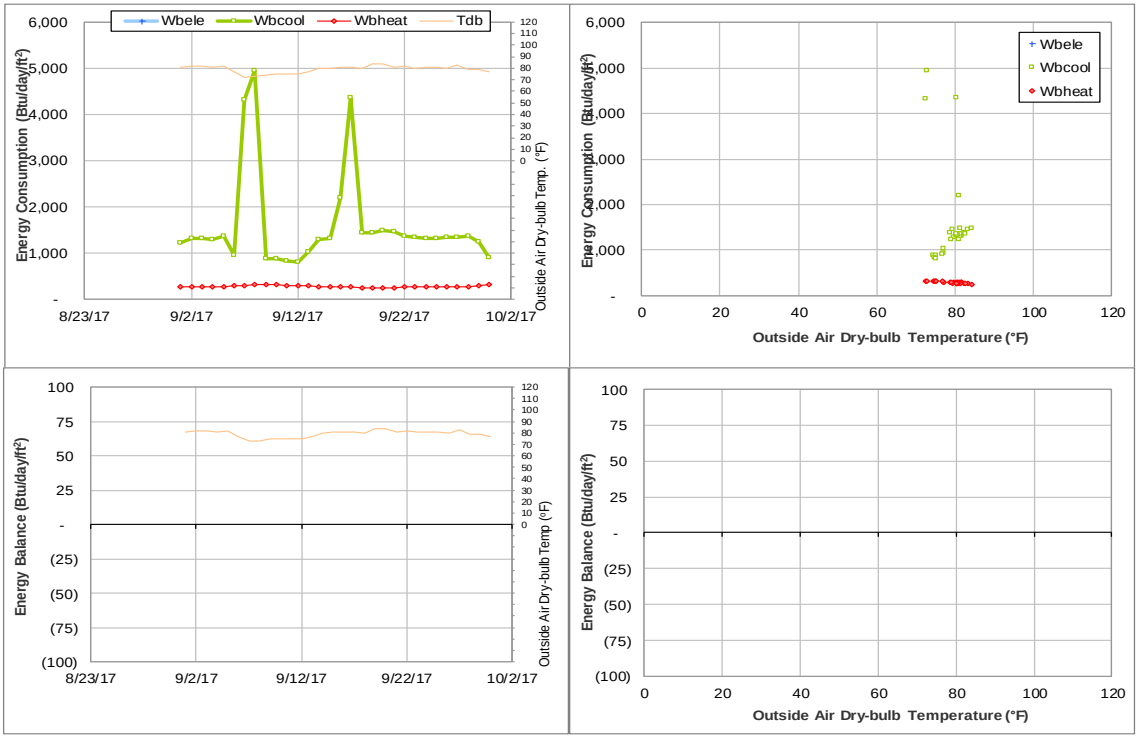


Figure IV-205 NCTM Manufacturing Building TAMU BLDG # 10226 Energy Balance Plot during September 2017

V. Energy Balance Plots with Filled-in data for September 2017 Consumption

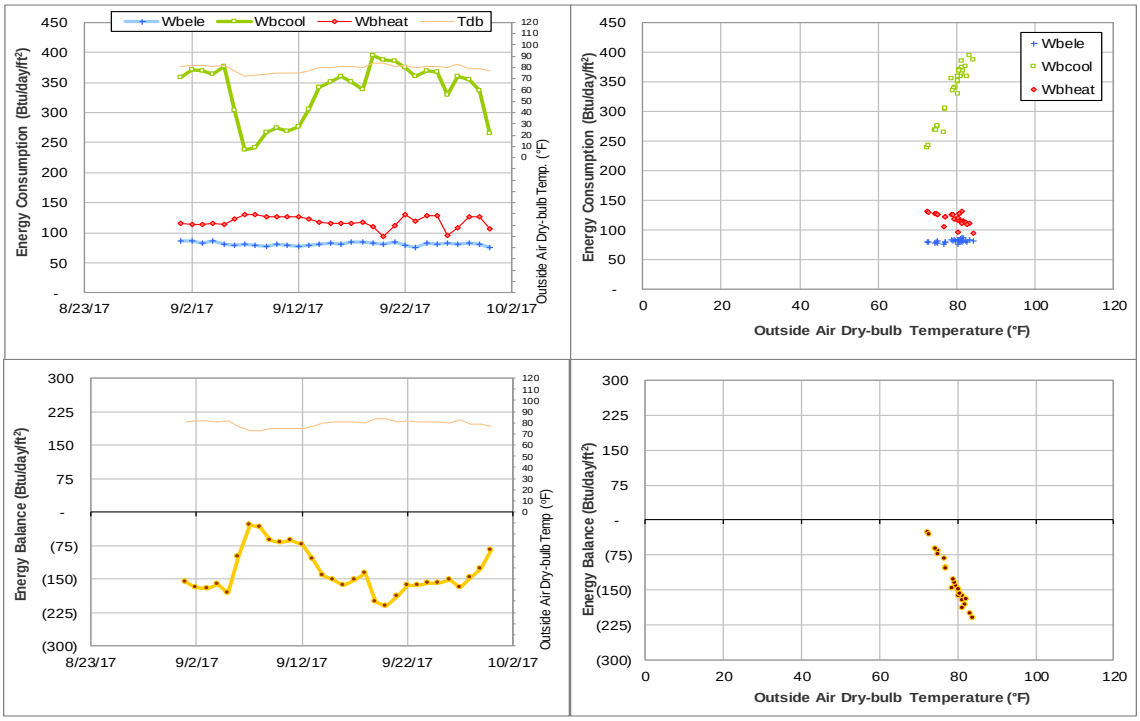


Figure V-1 Rudder Residence Hall TAMU BLDG # 291 Energy Balance Plot during September 2017

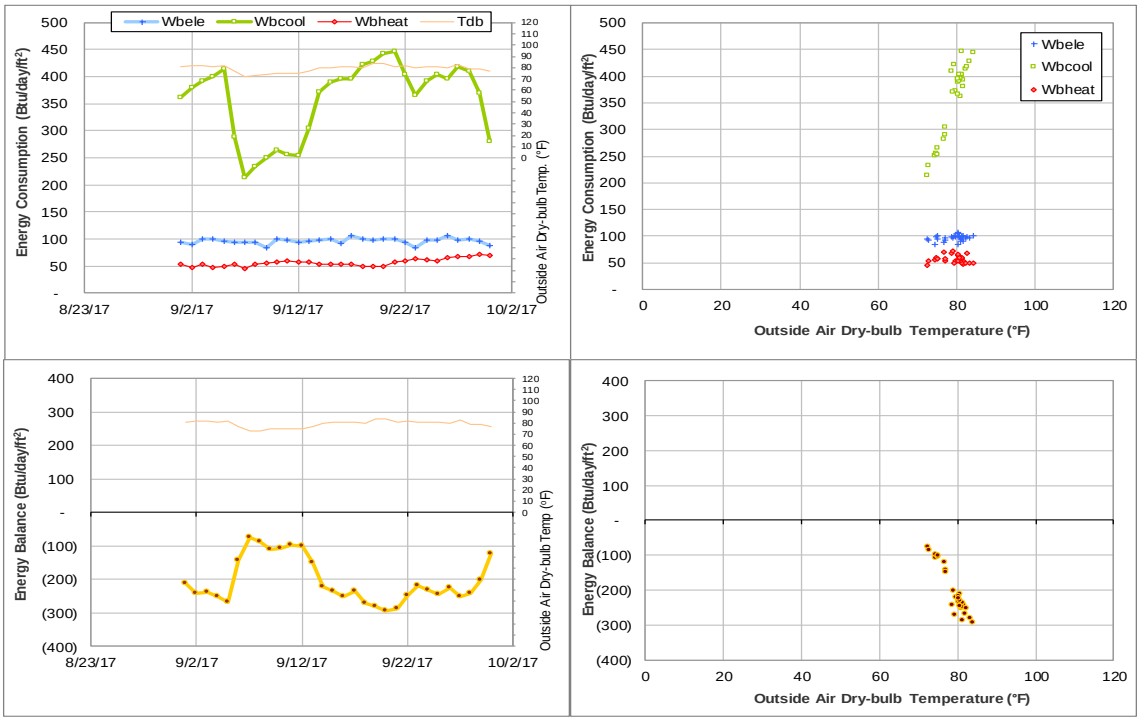


Figure V-2 Spence Hall, Briggs Hall, and Ash II LLC TAMU BLDG # 400 Energy Balance Plot during September 2017

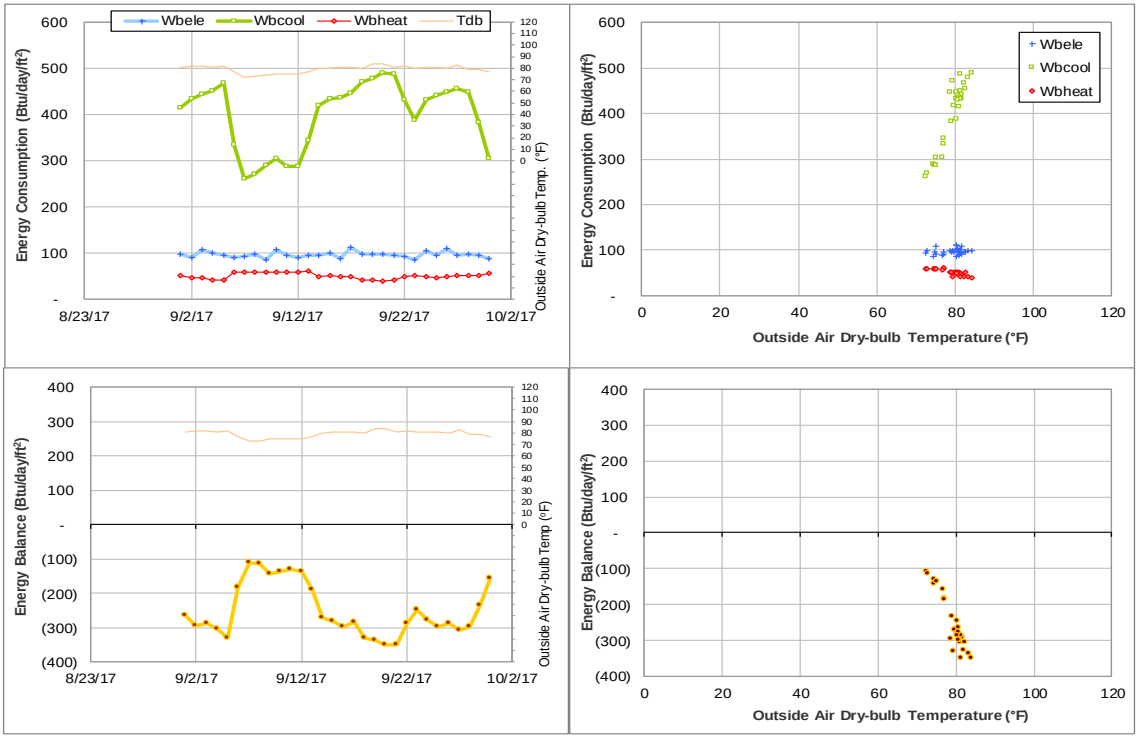


Figure V-3 Briggs Hall Dorm 3 TAMU BLDG # 402 Energy Balance Plot during September 2017

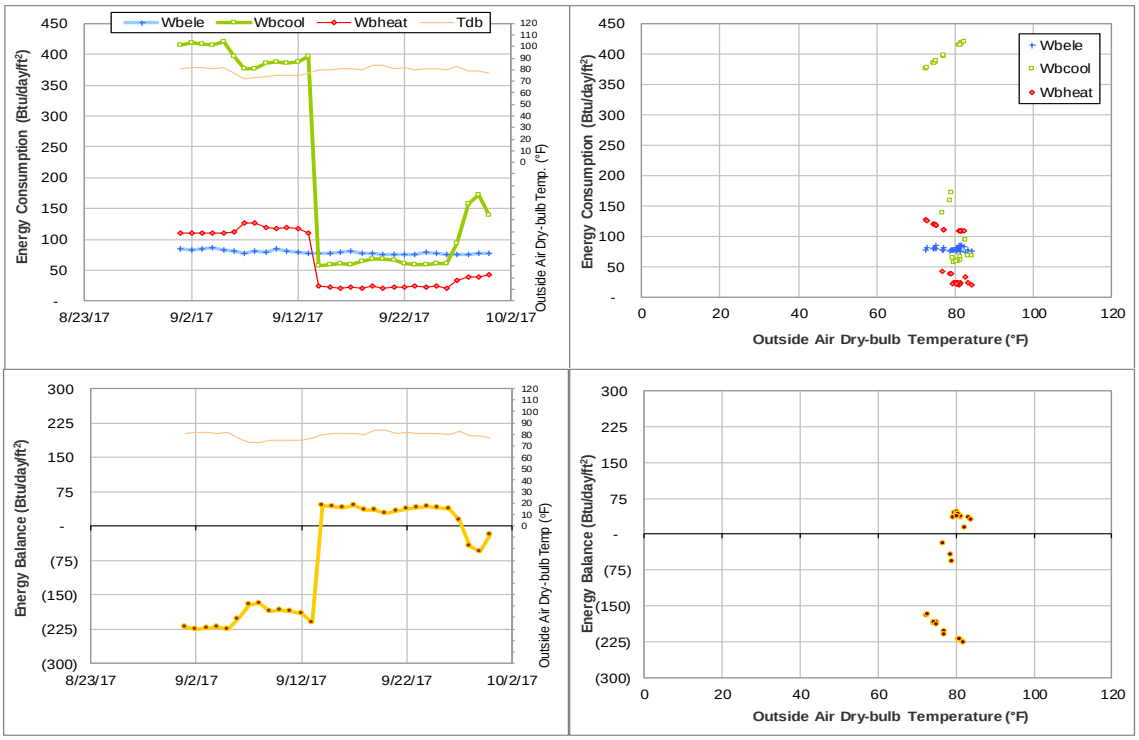


Figure V-4 Mosher Residence Hall TAMU BLDG # 433 Energy Balance Plot during September 2017

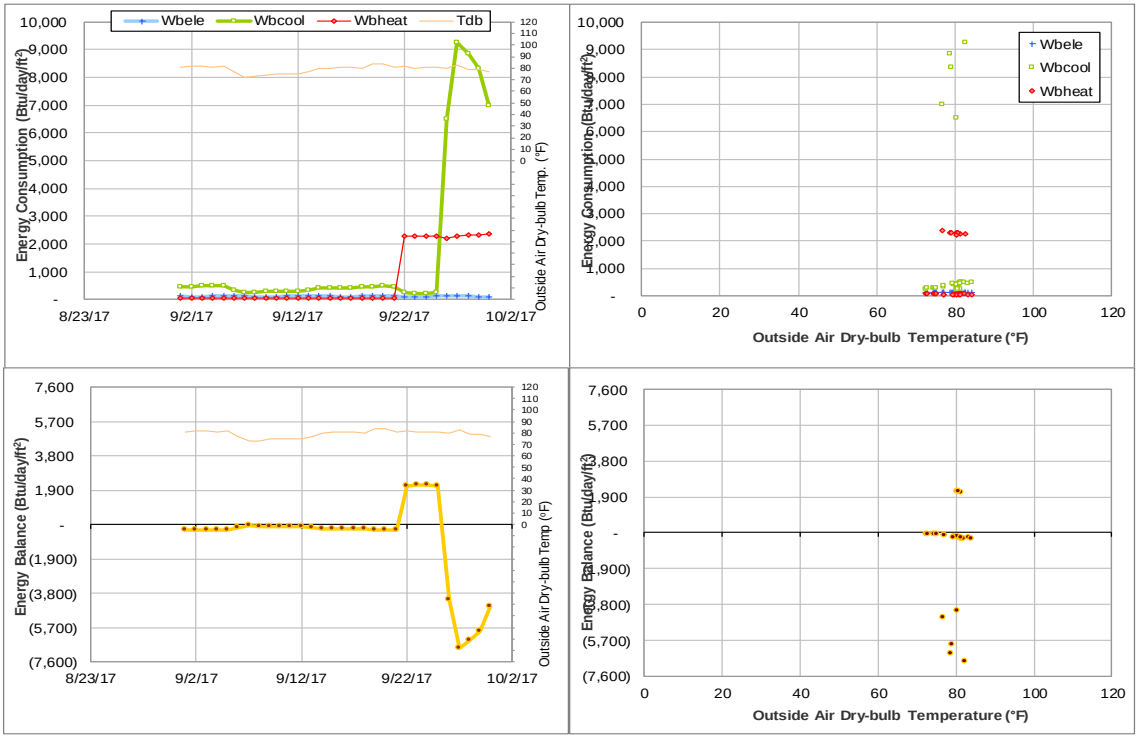


Figure V-5 Commons Krueger TAMU BLDG # 440 Energy Balance Plot during September 2017

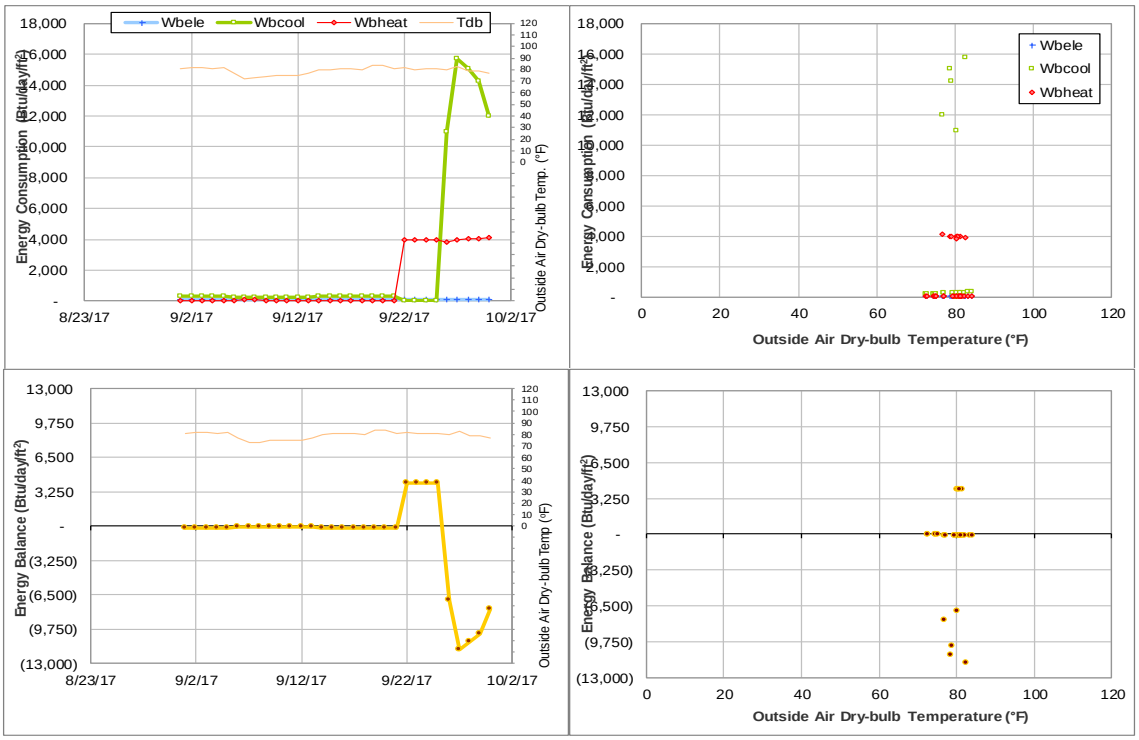


Figure V-6 Krueger Residence Hall TAMU BLDG # 441 Energy Balance Plot during September 2017

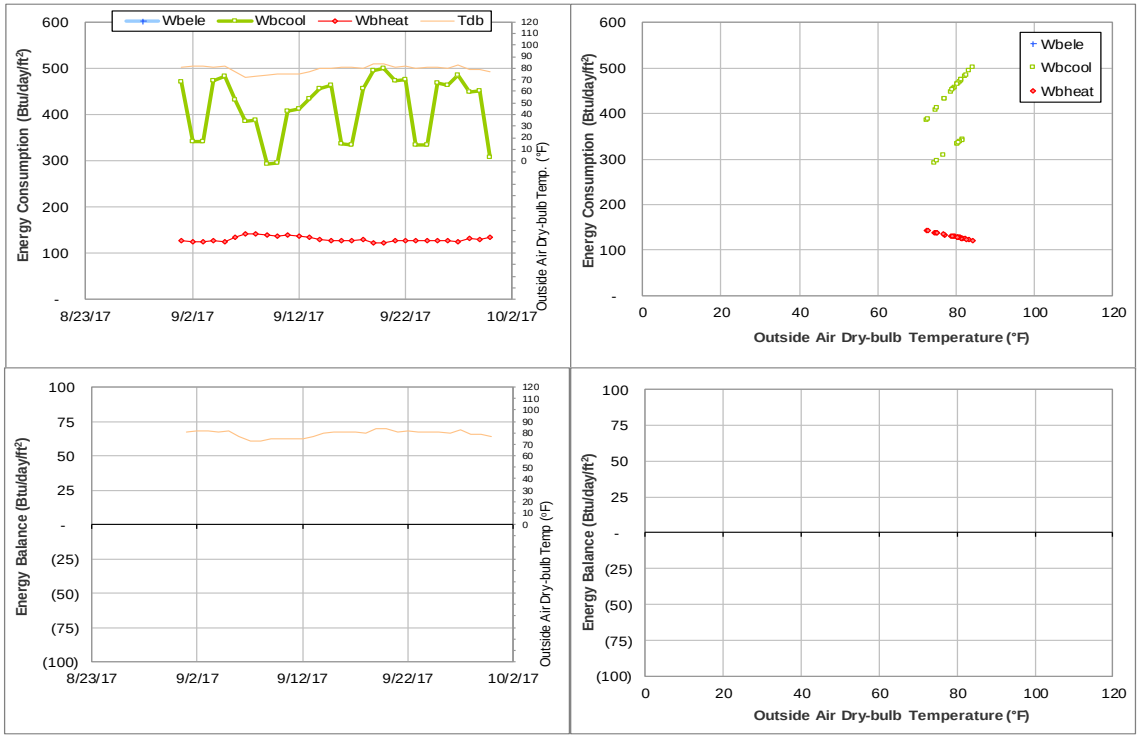


Figure V-7 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during September 2017

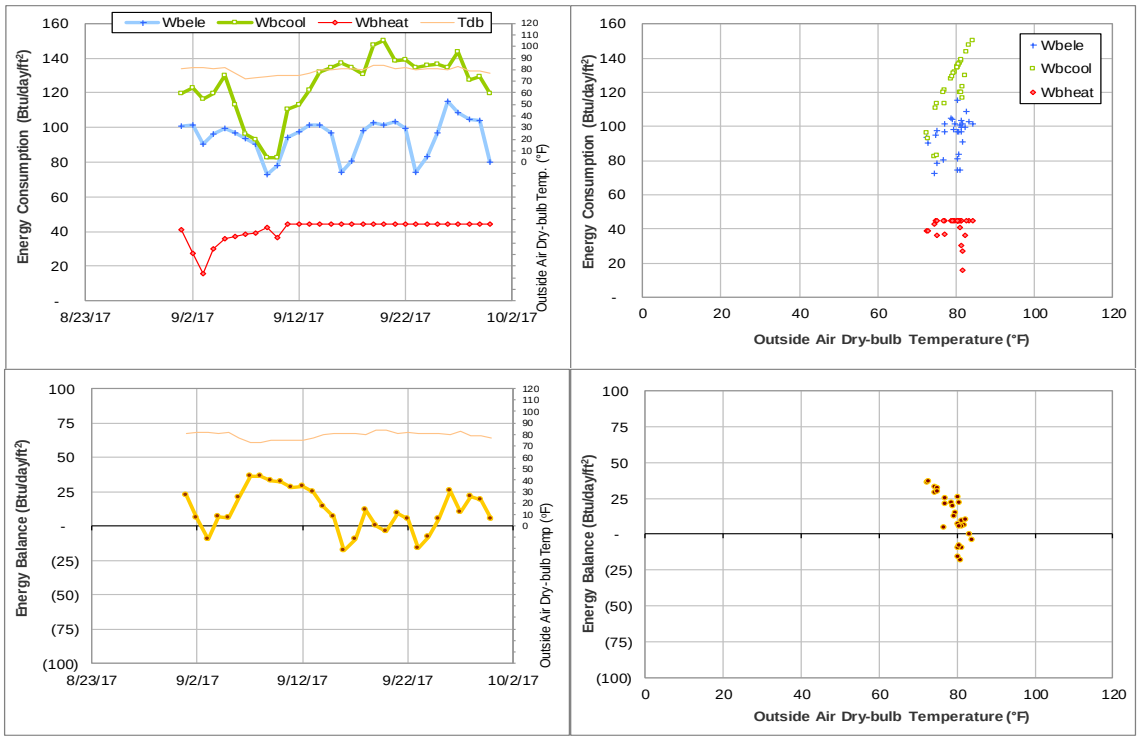


Figure V-8 Engineering Innovation Center TAMU BLDG # 499 Energy Balance Plot during September 2017

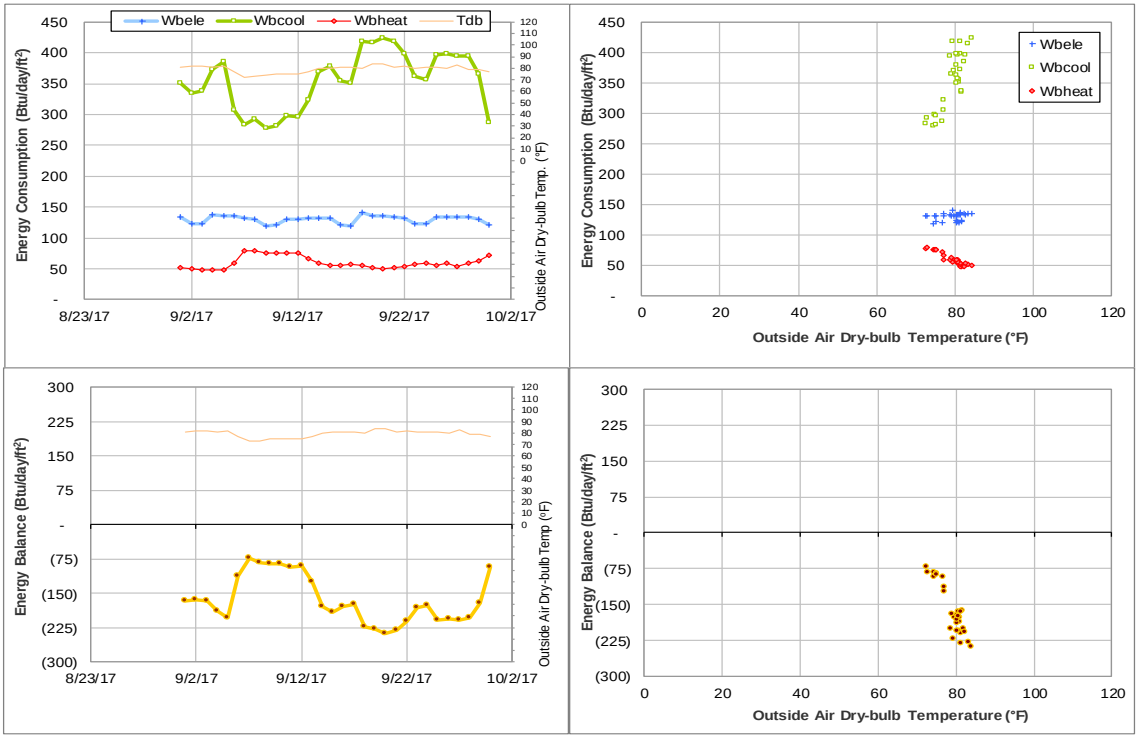


Figure V-9 Veterinary Teaching Hospital and Med Adm TAMU BLDG # 508 Energy Balance Plot during September 2017

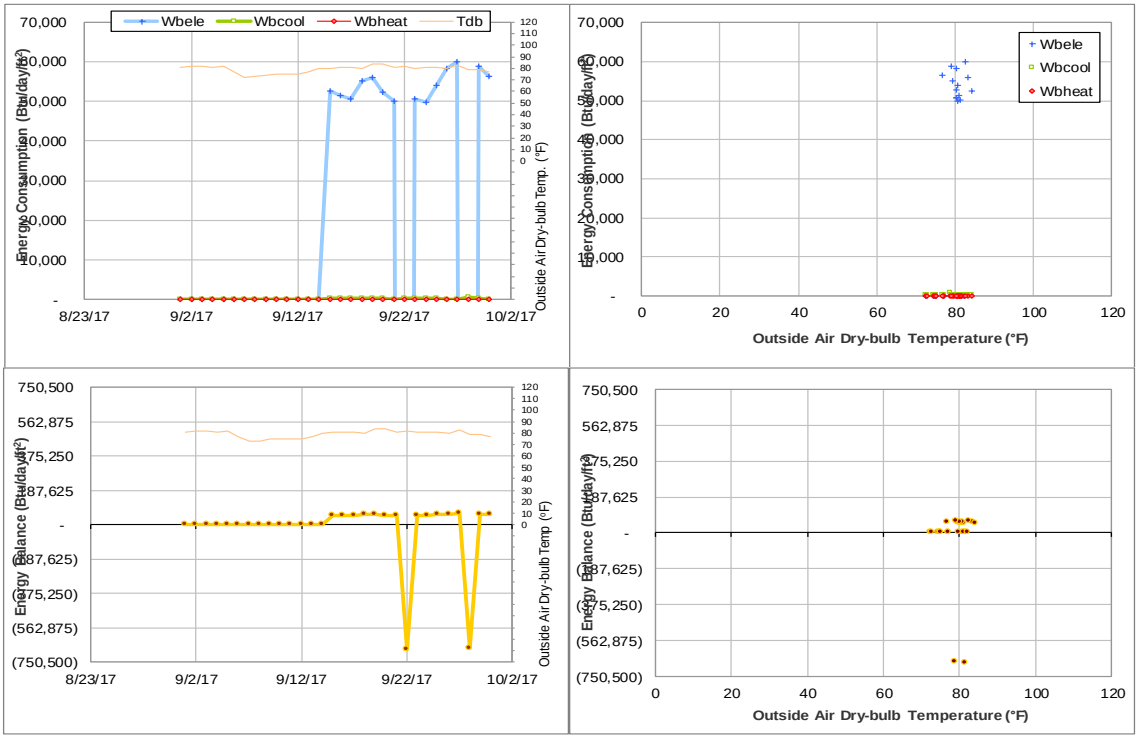


Figure V-10 Zachry Engineering Education Complex TAMU BLDG # 518 Energy Balance Plot during September 2017

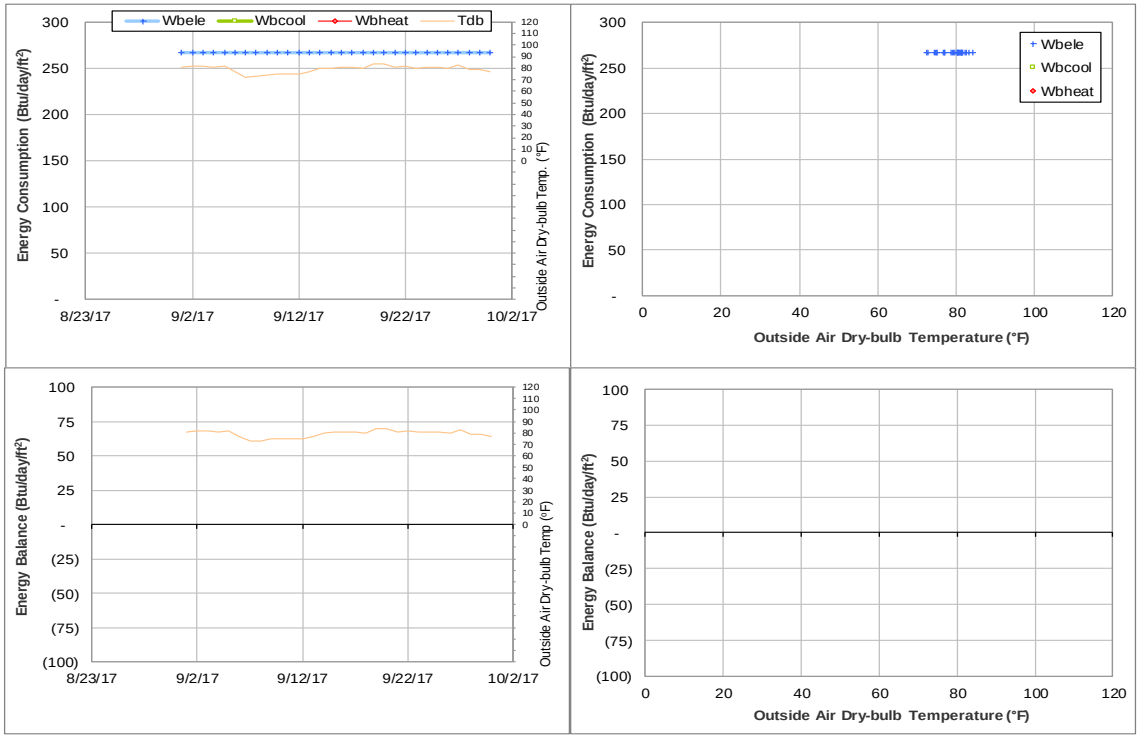


Figure V-11 Dollar Data Center TAMU BLDG # 971 Energy Balance Plot during September 2017

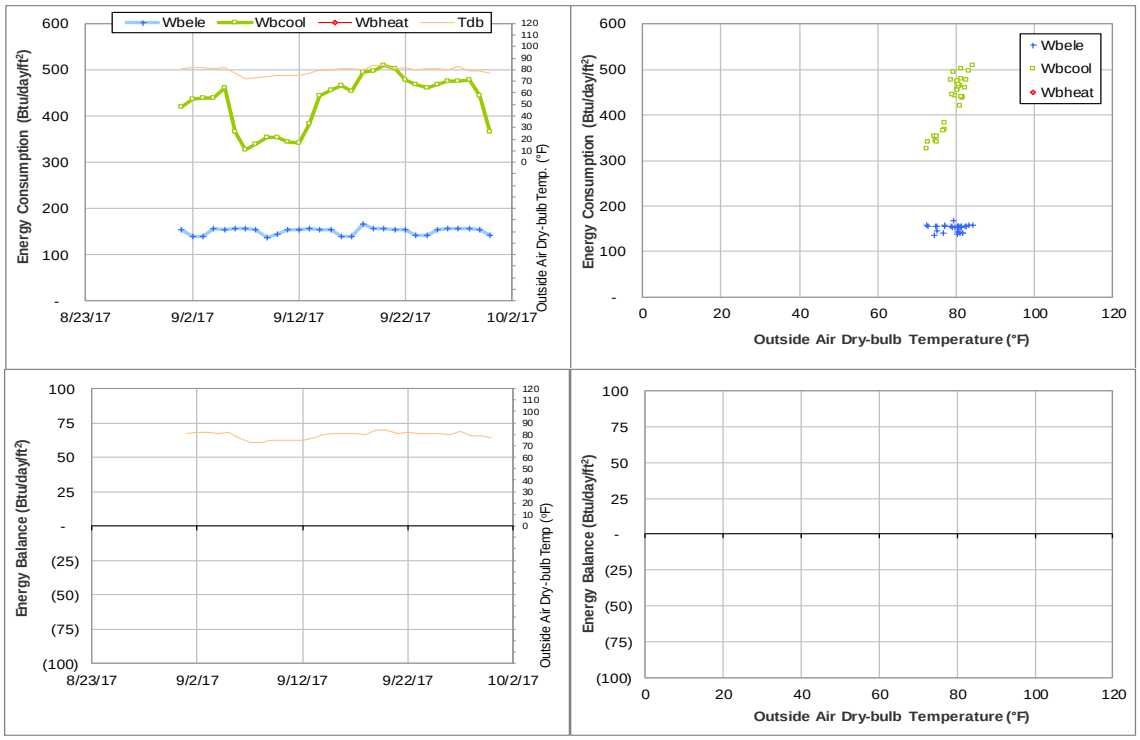


Figure V-12 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during September 2017

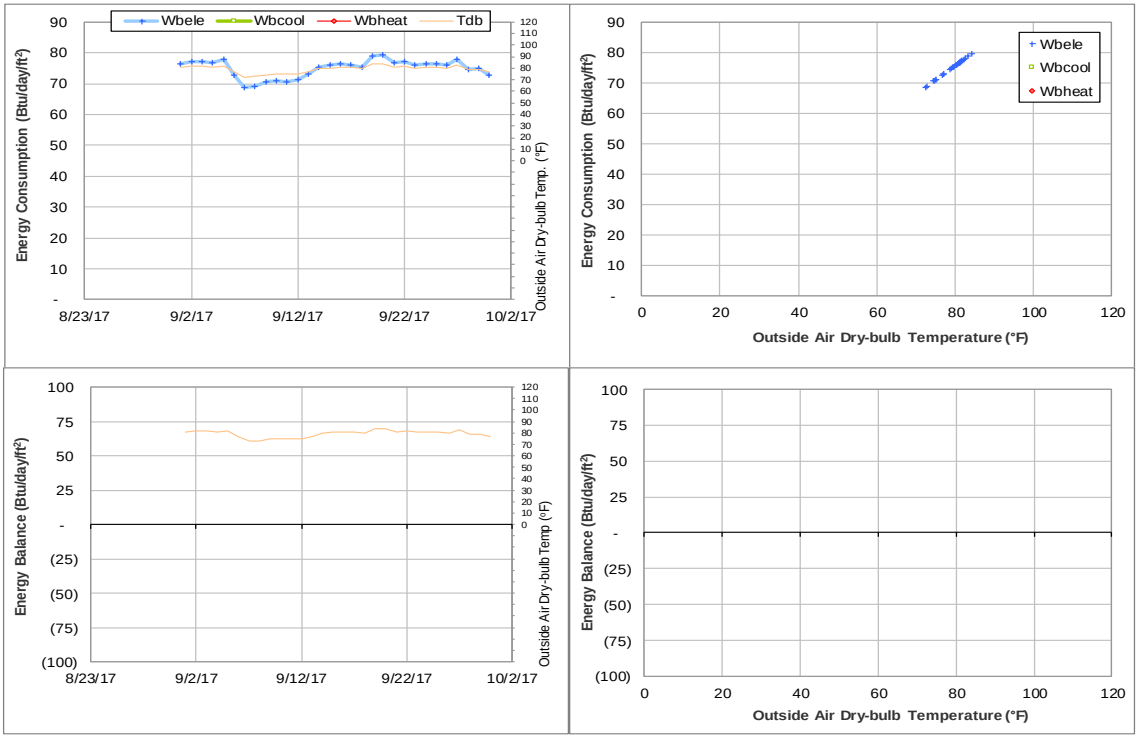


Figure V-13 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during September 2017

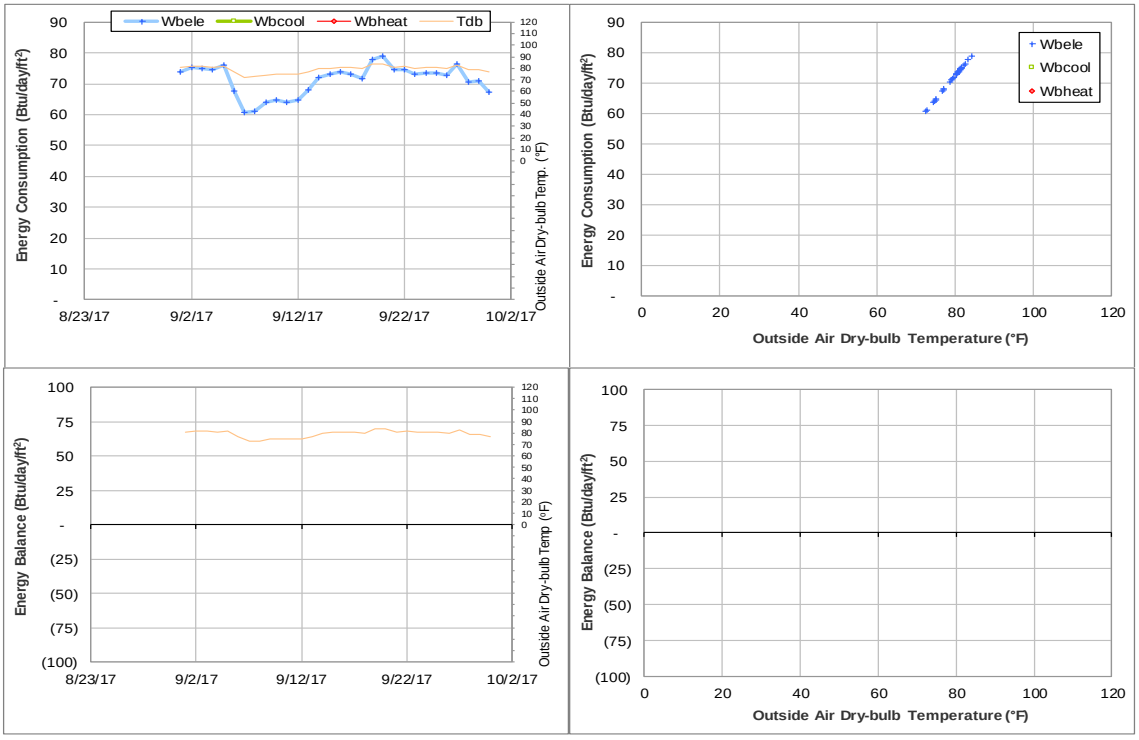


Figure V-14 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during September 2017

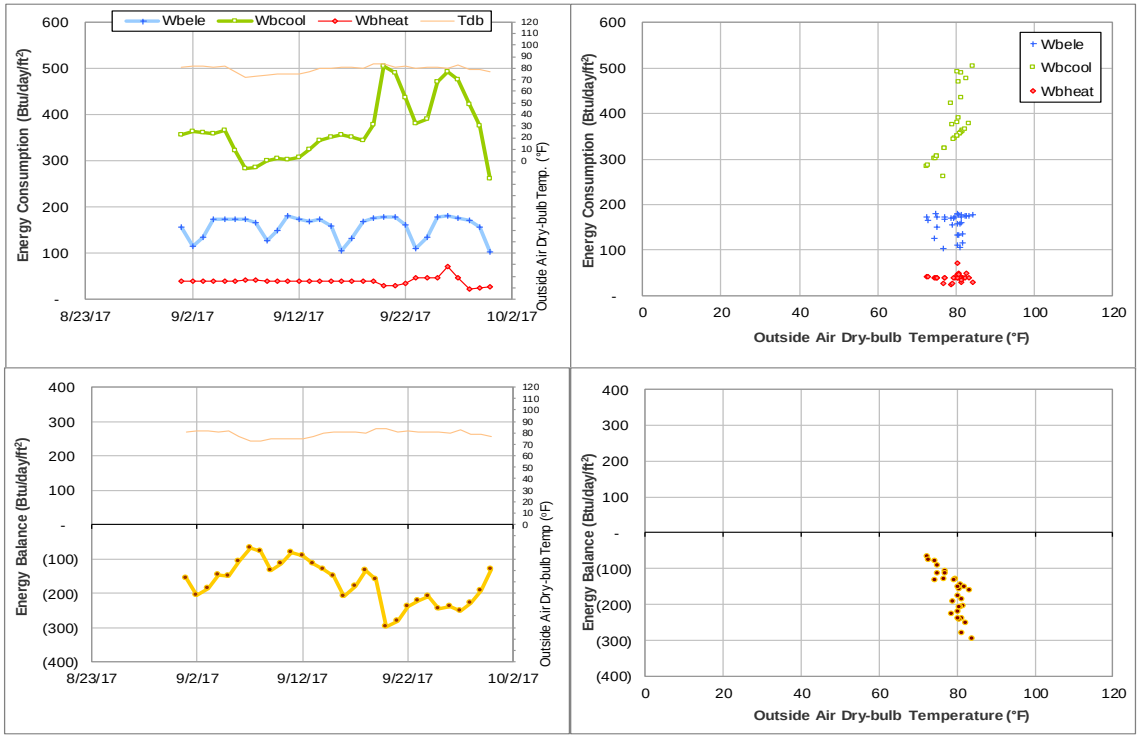


Figure V-15 West Campus Library Facility TAMU BLDG # 1511 Energy Balance Plot during September 2017

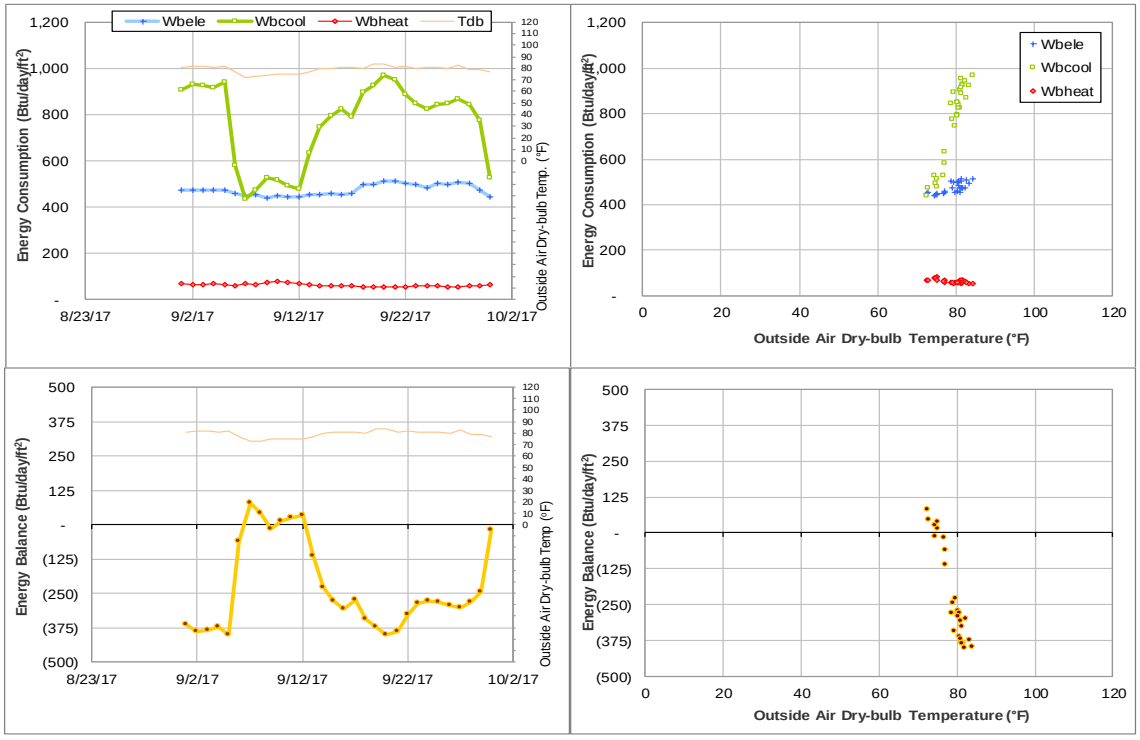


Figure V-16 Borlaug Center for Southern Crop Improvement TAMU BLDG # 1513 Energy Balance Plot during September 2017

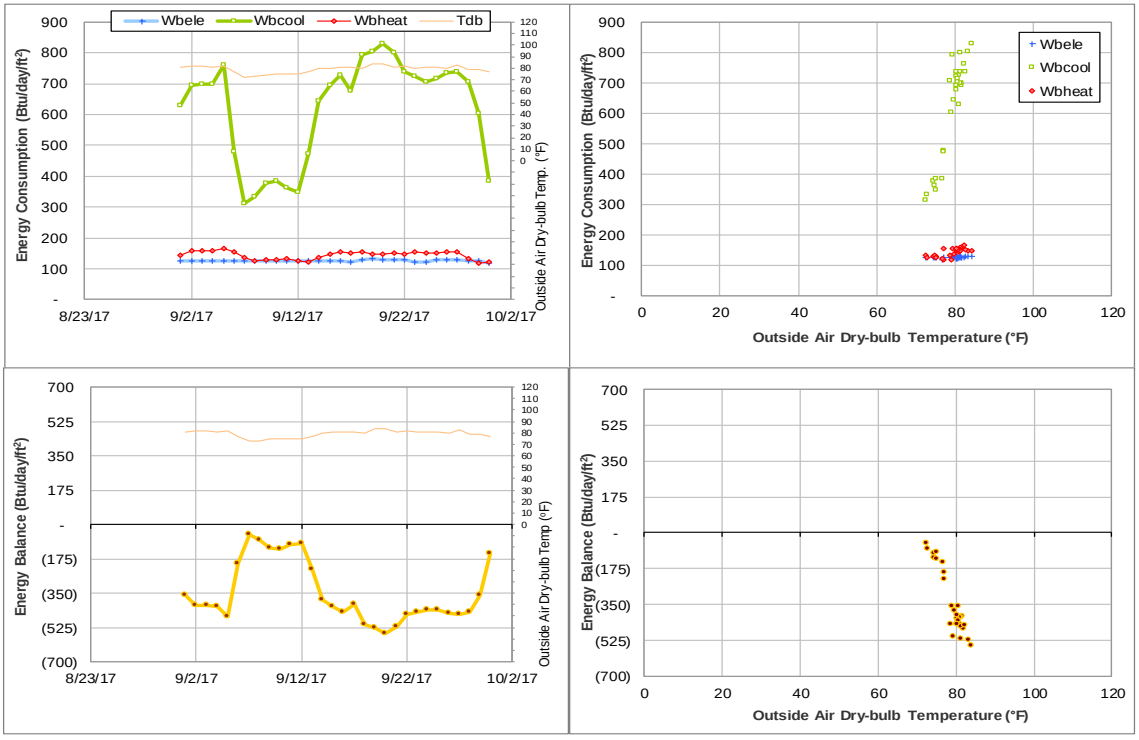


Figure V-17 Wildlife Fisheries & Ecological Sciences Building TAMU BLDG # 1537 Energy Balance Plot during September 2017

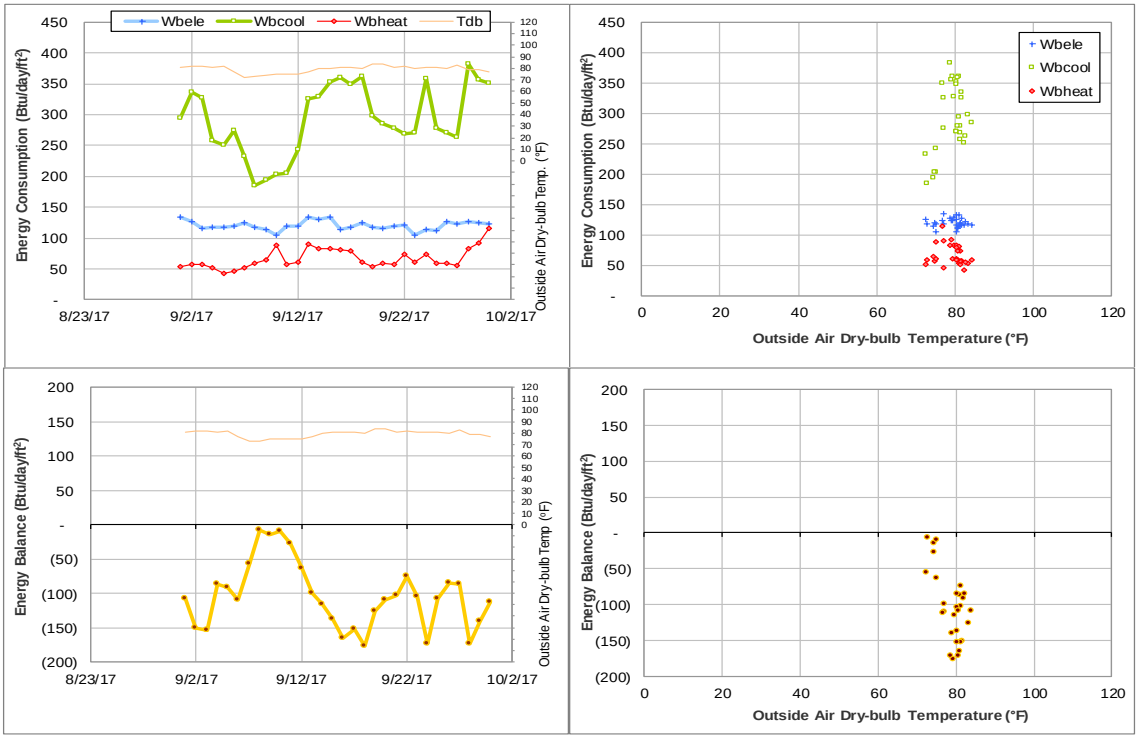


Figure V-18 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1554 Energy Balance Plot during September 2017

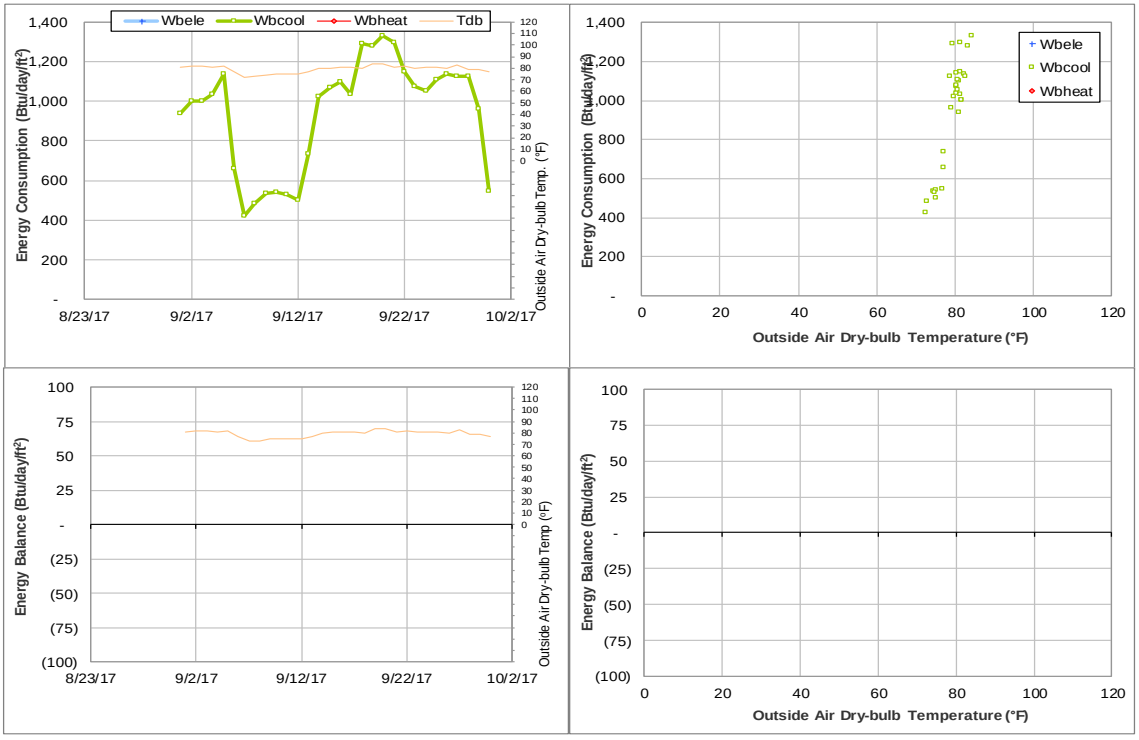


Figure V-19 New TVMDL TAMU BLDG # 1809 Energy Balance Plot during September 2017

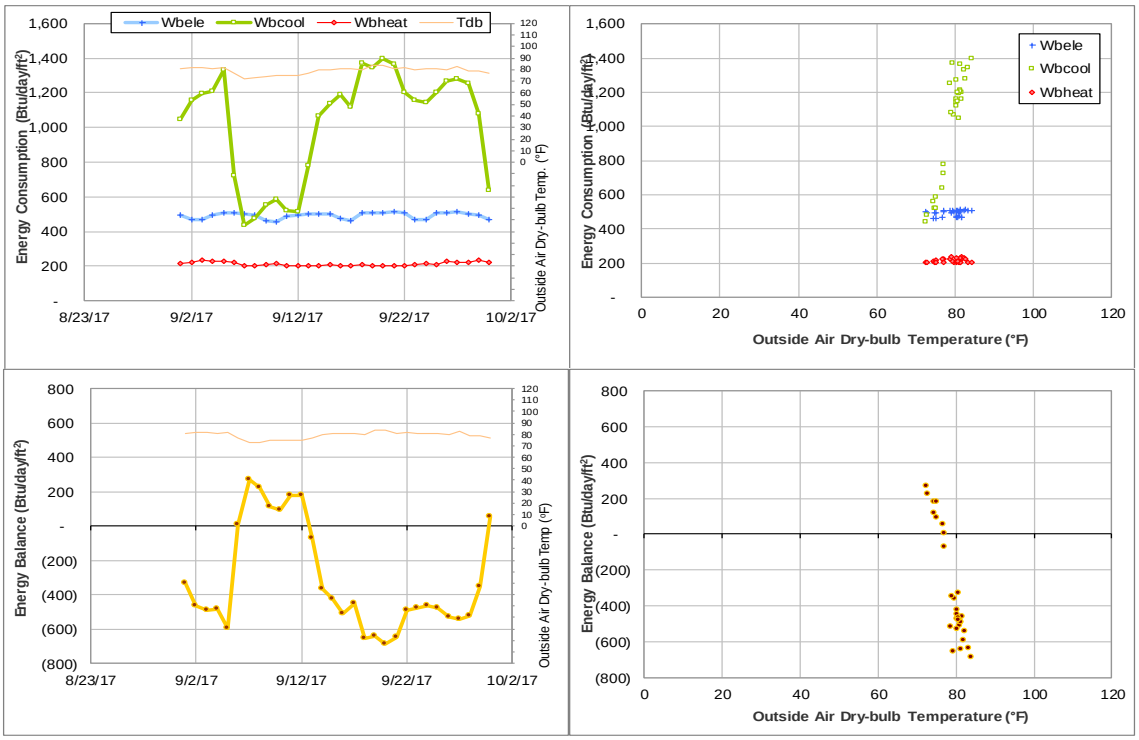


Figure V-20 Vet Med Research Bldg Addition TAMU BLDG # 1811 Energy Balance Plot during September 2017

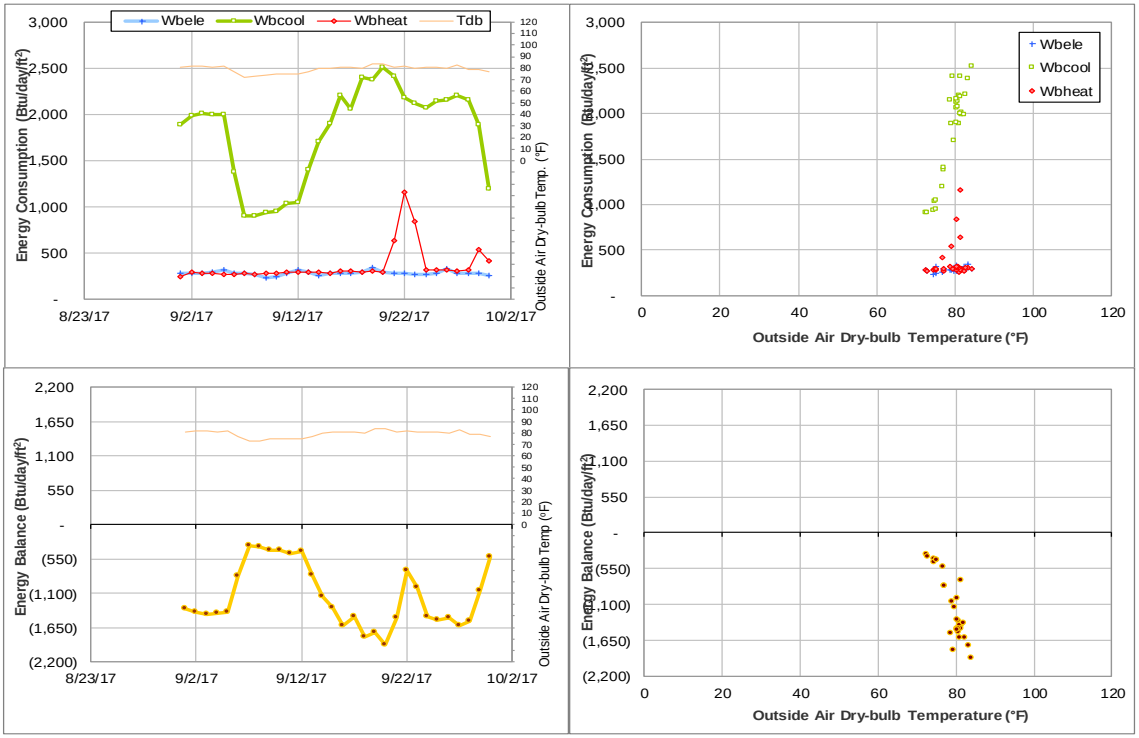


Figure V-21 Texas Institute for Genomic Medicine TAMU BLDG # 1900 Energy Balance Plot during September 2017

VI. Appendix

ENERGY ANALYSIS GROUP

ENERGY SYSTEMS LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

Project: TAMU Energy Consumption QC/QA Analysis*

Report: Energy Consumption Data Quality Assurance/Quality Control Assessment Report for the Month of September 2017

Prepared for:

Utility & Energy Services

Division of Administration

Texas A&M University

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Date: October 2017

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